

MANUFACTURERS' RECORD

A Weekly

Southern Industrial and Hardware

Newspaper.

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WEEKLY.

BALTIMORE, JULY 27, 1889.

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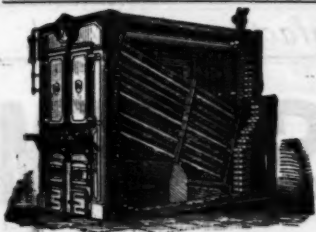
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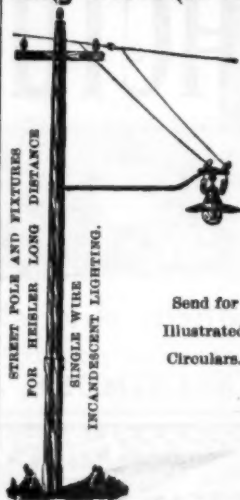
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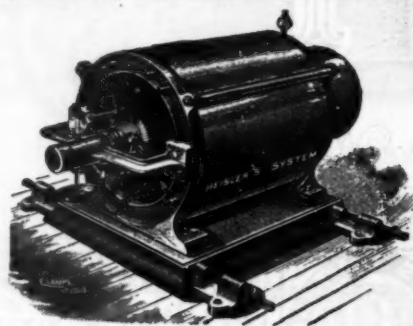
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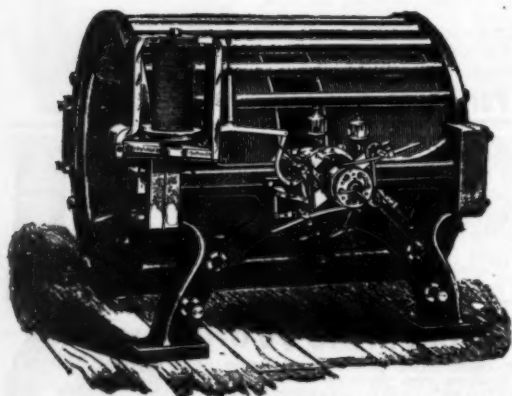
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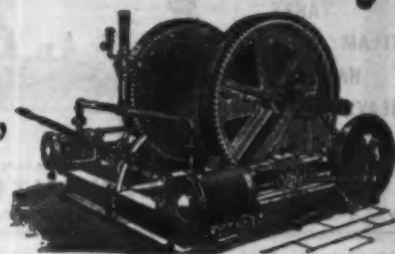
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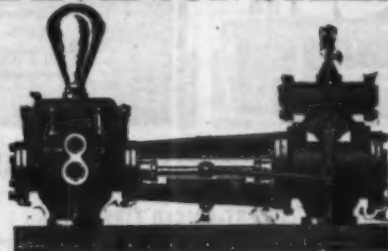
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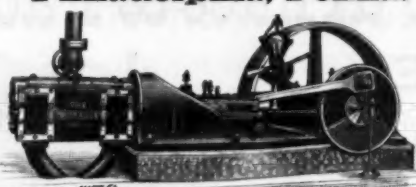
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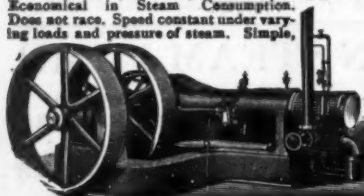
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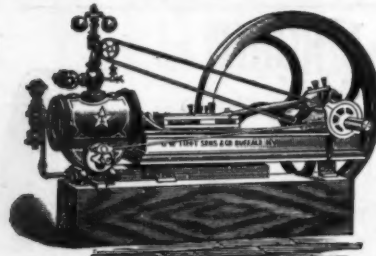
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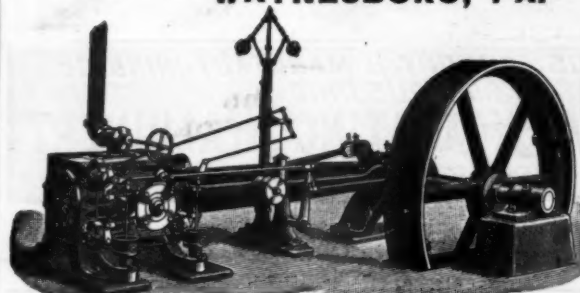
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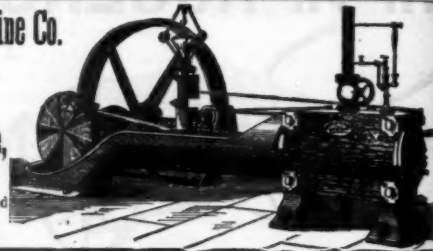
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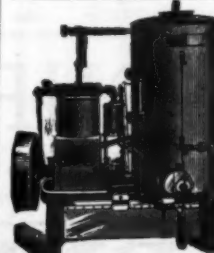
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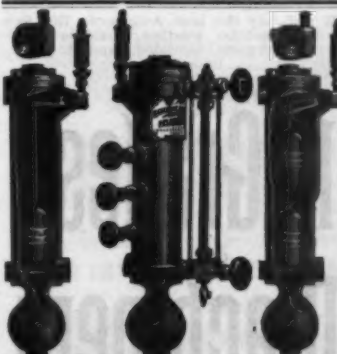
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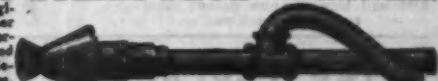
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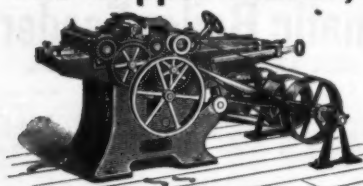
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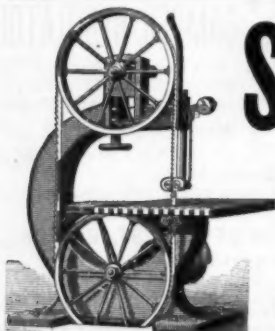


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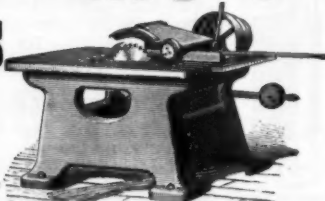
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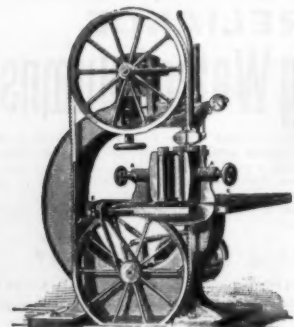


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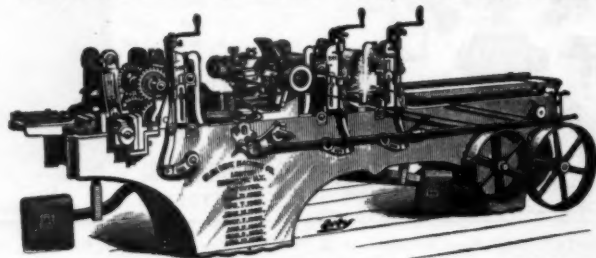
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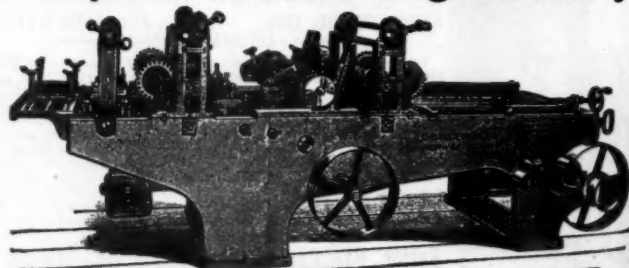
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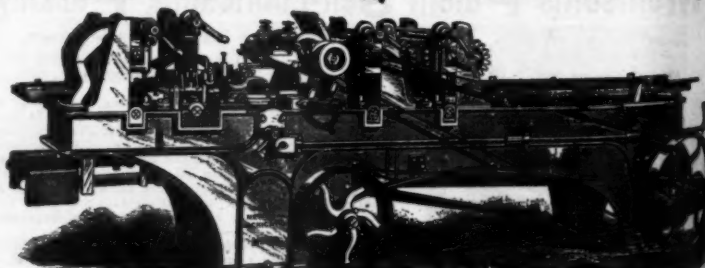


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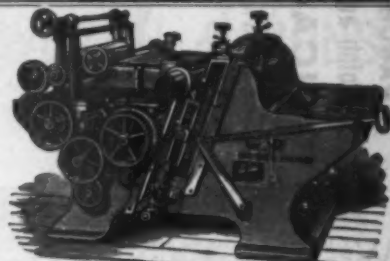
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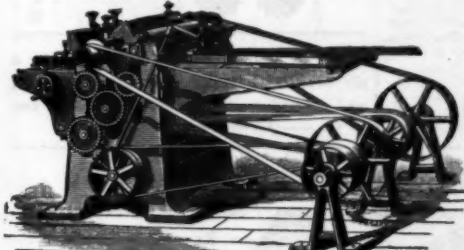
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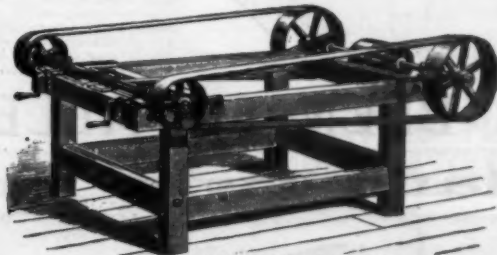
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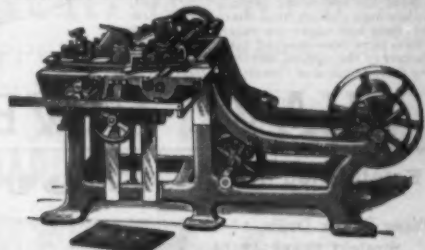
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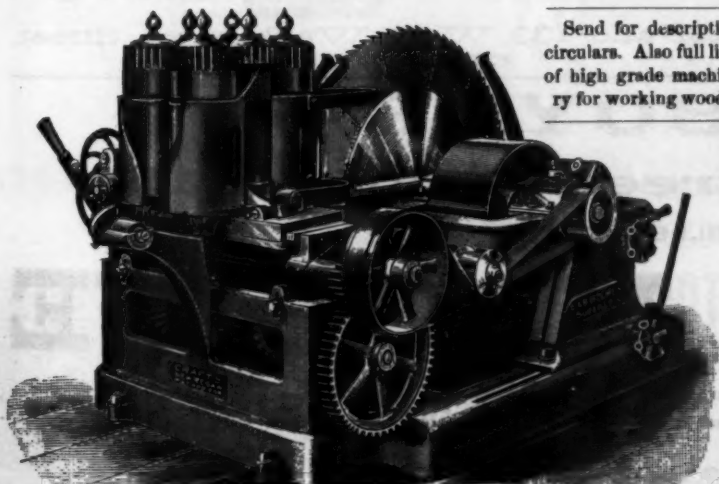
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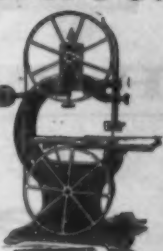
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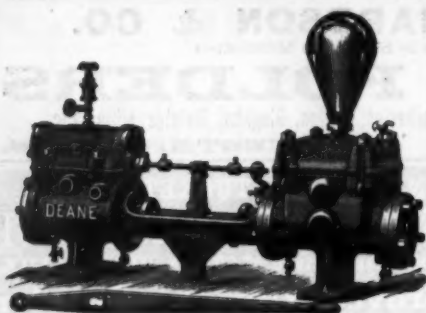
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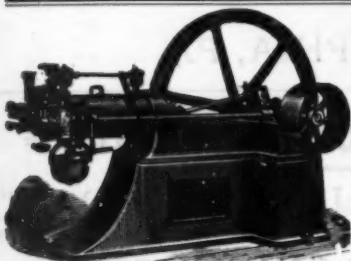
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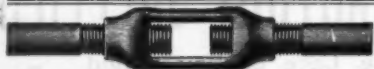
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WE publish this week an interesting and important article on the subject of jute culture. We believe here is an industry that will be of great value to the South. The investigations and experiments already made would go to show that the South could lead the world in jute culture. Certainly great efforts should be made to test this, for one of the great leaks in the economic structures of the South is the money spent for bagging. Scotland, without any special advantages, but with many disadvantages, is the leading jute manufacturer for the commercial world. Why cannot the South raise and manufacture jute and sell the product in the very markets of Dundee? We believe it can.

THIS flash of wit and wisdom is from the Philadelphia Press:

The colored planters at the South expect to harvest 8,000,000 bales of cotton this year. In the meantime the old white planters will sit in the shade cursing the "lazy niggers."

If the "colored planters" are going to harvest 8,000,000 bales, will the brilliant statistician of the Press give us an estimate as to what the entire yield will be? Cotton experts, hitherto supposed to be reliable, have estimated that the whole cotton crop this year may possibly reach 8,000,000 bales. It has never yet gone that high.

Or maybe there is a joke hidden away somewhere in the foregoing paragraph. Possibly the writer means to claim that all the cotton grown in the South is raised by "colored planters." Then he should go South and learn something. But come to think of it, that wouldn't make any difference. He writes from malice more than from misinformation.

A SCHOONER cleared from Wilmington, N. C., last week for Greytown, Nicaragua, with a cargo of material for use on the Nicaragua canal. Her cargo consisted of creosoted and non-creosoted piles and lumber, which will be used in building a pier and breakwater at Greytown. Several other schooner loads are contracted for, and these are only a beginning of what the MANUFACTURERS' RECORD hopes the South will reap from the building of the canal. From the few orders already placed, it looks as though the South would furnish practically all the lumber and timber used in building the canal.

What "Hustling" Does.

The man of business and energy throws himself body and soul into his work. His invariable rule is business first, pleasure afterward. Politics, social enjoyment and the like are never allowed to interfere with business. They are of secondary consequence, and receive attention after business hours only.

The community that seeks growth and prosperity is forever reaching out for some new development just beyond its grasp. Like the man of business, it is pushing unceasingly. Elections come and go, social events come and go, but it is still devoting itself to business. The question is not whether the man has great business ability and the community great natural resources, near as much as it is whether he is a man of irrepressible pluck, and the community of irresistible push.

The best business gauge of any community is its newspapers. A paper may be a personal organ more than a mouthpiece of the public, yet the general sentiment of the community can be pretty closely approximated by studying even this personal organ.

To a close student of the South we believe it is not a difficult thing to gauge the growth of a community by its local press. To use an expressive word, the press in a community of push and energy is always "hustling." This hustle may not be directly in the line of local development or improvement every time, but it is that restlessness ever on the alert for a good thing, whatever it may be. Such a paper is always getting what is called a "scoop" in newspaper parlance, and the community it represents is always attracting to itself new enterprises and new life.

On the other hand, where a paper is constantly stirring up the political pot to see if by some accident it has not overlooked some little incident, but seldom gives the business pot a stir, that constituency can safely be set down as conservative and listless.

A live town is always on the alert and never allows anything to escape its grasp. Were it to attempt to discriminate, it would lose many a good thing. It is like a magnet; it sweeps in everything within reach. A magnet that would attract a needle but repulse a nail would be of little use. A community that would strive for a cotton mill but overlook a saw mill would not be on the main highway to prosperity.

The MANUFACTURERS' RECORD hopes to see every Southern community make everything secondary to business. What a boom many communities, now stagnant, would have if the local press would devote half the space and energy to local improvement and development that is now devoted to discussing political and like inconsequential matters.

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Steam Power, or Water Power?

Many towns throughout the South that are building air castles of future prosperity base their hopes upon great water powers at hand. They argue that with a great water power they must of necessity become large manufacturing centers.

The majority of the leading industrial centers of the country undoubtedly owe their prosperity to water power. But these centers were built up before coal had come into general use. Twenty-five years ago wood was used as fuel, except, perhaps, in a few towns and cities conveniently situated to coal mines. With the increase of manufacturing and the greatly increased demand for power, coal has almost superseded water. All things being equal, water is generally believed to be the cheaper power. But the difficulty is to have all things equal. In a place like Fall River the limited water power is very cheap owing to the great fall the water has. A mill fortunate enough to own a privilege on the river there can set its wheel on the solid rock in the bed of the river, and is thus saved the expense of heavy dams and other masonry to secure the power. Yet these mills with water power do not pay greater dividends than other mills in the same city that run entirely by steam. In Lowell, Lawrence, Manchester and other centers where great water powers have been obtained by damming rivers at great cost, water power is expensive. Some recent figures on the cost of power at Lowell, where coal costs more than twice as much as in the South, gave water power at \$22.62 per horse-power per year, while steam power, one quarter exhaust used for heating, etc., was \$21.16 per horse-power a year. In cases where all the exhaust steam is used at a pressure of ten pounds, steam power is estimated at only \$14.58. Here then is a great saving by using steam power.

In the South are several very valuable water privileges that can be developed at less expense than those at Lowell or Manchester have been, and when utilized to a limited extent they may prove cheaper than steam power. But when the demand for power exceeds the supply of water in the drier times the point has been reached where steam has the advantage. A good example of what steam power alone can accomplish is the city of New Bedford, which has about 600,000 spindles, yet not water power enough to run a small saw mill.

We do not want to be understood as detracting from the value of water powers. They undoubtedly represent much undeveloped wealth, but towns containing them have not the advantages over towns without them that they flatter themselves they have.

One great source of wealth in these water powers that can be cheaply developed, we believe, is in the development of electric power. There is no reason at all why a town with a

water privilege at hand should not only provide itself with cheap electric lights, but also with cheap electric power for small industries, and perhaps for household uses. It would not require an unusual water power to accomplish this, and on the average stream the flow of water would be sufficient at all times of the year.

FREE trade organs do some queer reasoning. Here was the New York World the other day commenting on the flow of English capital to this country, and deducing therefrom the conclusion that it must be possible to make money in a free trade country, or there would not be all this capital in England to be sent to America for investment. Perhaps the World forgot to look at the other side of the question. If in free-trade England there is such prosperity as in protected America, why this rush of money from England to America? Why are the iron makers and manufacturers of England transferring their capital to this country? What explanation will the World make of the great industrial town that English money is building up at Cumberland Gap in Kentucky? Why is not all this money kept at home and put into furnaces and mills there? Why is English money buying up breweries and flour mills, and hotels and dry goods houses all over the United States?

In the winter of 1887-8, when blizzards and cyclones were sweeping over the country, we called attention to the remarkable immunity of the South from these terrible visitations. While fierce winds and intense cold were carrying death and destruction into localities North and West, the entire South was almost wholly free from any unusual climatic or atmospheric disturbances. The same difference has been observable during the present period of storms and floods. In the North and West the most terrible storms the country has ever known have prevailed. Cloud bursts, sudden and unprecedented rain storms, overwhelming floods have wrought devastation and ruin, and every day brings news of some new calamity. It is a remarkable fact, though, that with the exception of parts of Virginia, (which, however, have suffered but slightly), the whole South has been exempt from these catastrophes. Whatever may be the cause, it is an unquestionable fact that the South enjoys both in winter and summer a comparative freedom from these disastrous manifestations of the destructive power of the forces of nature.

THE South Georgia College at Thomasville, Ga., contemplates establishing, in connection with its other departments, an experiment farm. The college receives \$2,000 from land script as provided by the government, and the intention is to devote this sum to the interests of the farmers.

Native Born Labor.

No one thing is of greater moment in the progress of the South than the fact that all labor is native labor. There are no raw recruits from Ireland, Germany, Bohemia or Italy, or French "Canucks" from Canada to be initiated into the mysteries of running machinery, and at the same time be assimilated by society. This means untold saving to all industries. No people in the world take as naturally to machinery as we Americans do. The significance of this is well shown by the remark the superintendent of one of the large factories in Massachusetts made: "I employ 500 or more men," said he, "and every man is a native born American. I have tried English and French and German and Irish workmen, but they cannot begin to compare to the native American, so now I never employ any but native help. The foreigner will work cheaper than the American, but his work is poorer and he does not do as much of it as the American. I would not take any 600 men you can find in Europe for my 500. My men will do more satisfactory work than they, and do as much of it, too. I never had a foreigner who could do as much work as a good American."

In most parts of the United States it is very difficult to get much labor that is not foreign. In the South, however, foreign laborers are even more rare than native labor is elsewhere. When the South comes into closer competition with the industrial world, the benefits of this native labor will be much more apparent than now. The dignity of labor is becoming more evident each year, and with the best class of laborers, the South will be benefited from an economic standpoint more than any other part of the country.

A Voice of Disapproval.

The writer of the following interesting communication seems to not wholly approve of Birmingham mineral experts. We are extremely sorry for the experts, and it pains and mortifies us to know that he can not commend the undertaking about which he writes:

Calera, Alabama July 15th. 1889

Manufacturer Record Co—

Baltimore Md

Dear Sir

Friend of mine hand me a slip of paper from which I learn of a Southern Exploring Expedition by the Mfg—Record, I like to say that et loo—m Mineral Expert have of them Birmingham—h can be found in 25 found gas and Oil which can be found in 25 Mile of Birmingham Ala—out 6 Month ago I nothis a statement in the Mfg—Record that a Smelter bying in progress on—Building such report came I ges from some on—your Birmingham Mineral Expert, I have been living in Ala for the last 20 years and have seeing in that time many man which profess to be Mineral Expert but be puting little test to them then the got puzale, I believe that ther never been a Mineral Expert in Ala— for to look for Mineral or the precious Mineral would been discover of which Ala— is so Rich: I find that a man which through the Rocky Mountain with a gold washing pan is in Ala— a first class Mineral Expert

Your

The Chester Plan.

The story of the origin of the Moffatt Manufacturing Co., of Chester, as told elsewhere in this issue by a correspondent, is another illustration of what can be done in the South without money or credit by men who are honest, industrious and frugal. The need of skilled mechanics who can do any kind of job is also indicated. Mr. Moffatt's is not an isolated case, but one of many. In nearly every cotton buying town in the States where that staple is produced, a man of like skill would be a welcome addition to its population, would make a good living from the beginning, and after he had proved his ability and had acquired the confidence of the community, he would find those ready to join him in enlarging his plant and increasing his business. There is absolute need of many hundred such shops in the South as Mr. Moffatt's has been for the past six years. The lack of them is a greater drawback to prosperity than the uninformed would imagine. We have known of instances where the threshing of the wheat of several townships was delayed more than a week because of some breakage in the iron work of the machine which no one in the vicinity could repair. Had there been shops nearby in which all kinds of tinkering were done, there would have been but a few hours of delay, and the plans of scores of farmers would not have been disarranged.

The plan upon which this company has been organized is a good example for others to follow. It is an evidence of the sterling sense and financial wisdom that will control its affairs. Here was a shop whose owner was a universal tinker. He could mend whatever admitted of economical repair, or could replace with new pieces those parts of a machine that had been destroyed, and when work of that kind was slack, he made things that were needed and therefore sure of a sale. Having an inventive mind he devised improvements on things in common use, most of which he secured by patents. Beginning with a capital of hands, brains and experience, this man had created a plant and a reputation. His neighbors had watched his progress for six years and saw that he was able to carry on a larger business profitably. They made proposals which were accepted, and a company was organized to enlarge the plant and furnish money enough to run the increased business.

It often occurs that in organizing companies for manufacturing patented articles, fictitious values are given to their patents and issues of stock are left upon them. If the patent made—be largely saleable and proves to—be in time the dividends profitable, the—valuation. But if, justify the stock—the profits are as frequently occurs, on the face much below interest rate, the company value of the stock, then the

is handicapped by its own act, and is forced to pay annual taxes on a nominal capital that is earning little or nothing. This company has not made that blunder. It has acquired the exclusive right, we are informed, to manufacture and sell these articles, by agreeing to pay royalties to the inventor. In adopting this plan they have followed that of many Northern manufacturers of large experience and wealth, who make it an invariable rule to encourage their employees to exercise their inventive faculties by promising in advance to adopt everything they may devise that has salable value, and to pay them liberal royalties for its exclusive control.

What Chester's merchants have done for themselves by organizing the Moffatt Manufacturing Company may be done by the merchants of many other Southern towns. The desire to introduce manufacturing industries in communities where there are few or none is general. The tendency is to build large establishments and to secure some experienced and capable man (whose qualifications must be taken on trust) to manage its affairs. There have been too many failures of enterprises thus started already, and there is every reason to fear that there will be many more. The Chester plan is far better. If the merchants in any place where new industries are desired will look into the small shops in their own vicinity, they will in many cases be surprised to find that there is in some one of them the suggestion of a profitable enterprise that will require but little capital at the outset, but which, when once established, can be enlarged as rapidly as its profits and prospective business may warrant. The MANUFACTURERS' RECORD heartily commends the Chester plan.

The Hennequin Plant.

Mr. J. A. Fernandez de Trava, of New Orleans, who is thoroughly posted in regard to raising Hennequin, says:

"The shipments last year of this fibre from the port of Progress to New York reached the enormous sum of \$10,000,000 worth. The culture is simple and the preparation for market inexpensive. A planter from Merida told me that he sold his crop last year for \$300,000. The total expense of making and marketing it was \$33,000. An English company, with a capital of considerably over \$2,000,000, has been organized to develop the Hennequin fibre industry in the Argentine Republic, Mexico and the Island of Cuba. The first bale of the fibre raised in Cuba has just been sent from Havana to London. There is no reason why we should not introduce this fibre industry here, for the soil and climate of Louisiana are eminently adapted to the growth of the Hennequin plant. The plant would not be injuriously affected by the coldest spells we have. There is no question about the profits of the culture. One acre of land will grow about 1,500 plants. The plants attain full growth at the age of four years, and from that time during the fifteen years they give a full annual crop. Each plant will yield forty leaves, equivalent to two pounds of fibre. At the current price, twelve cents a pound, this would

make a product of \$360 per acre. The plant is hardy, and no cultivation is needed after the fourth year. Plantings are made in a manner similar to planting bananas. The machine used in Yucatan for preparing the fibre is simple, but can no doubt be greatly improved by American ingenuity."

Mr. Fernandez is enthusiastic in regard to the future of Hennequin in Louisiana, and has already introduced a few plants to experiment out on his own account.

A Lesson in Railroad Policy.

As long as the world lasts it will probably be cursed by the existence of mossbacks and demagogues. These two classes work for the same ends, the one through ignorance, narrow mindedness and shortsightedness, and the other for the accomplishment of personal aims by pandering to the prejudices of the first. Some member of one or the other class, every once in a while comes to the front in State legislatures with pet measures of railroad oppression. It would be supposed that even if these people had no sense of right and wrong, no regard for justice, no comprehension of the rights of ownership, a selfish regard for their own material welfare would lead them to seek to promote railroad prosperity and encourage the building of railroads. Every mile of railroad in operation is an aid to development, a source of enhanced real estate values and a general promoter of advancement and improvement. Ignoring this fact, however, and blindly fighting against their own interests, these anti-railroad cranks seek to hamper railroads by autocratic and arbitrary inimical laws, thereby interposing an effectual bar to railroad building or improvement, and subjecting to all the drawbacks and burdens of consequent inadequate railroad facilities, the country in which such restrictive legislation prevails.

The following from the Galveston (Texas) News on this subject is of interest:

The example of Georgia in its treatment of railroads has been frequently cited by advocates of aggressive and coercive measures of State regulation of railroad traffic as a practical illustration of the successful and beneficial working of such a policy. The fact is, however, that the example of Georgia in this particular has been an object lesson pointing in quite a different direction. The Georgia railroad policy, while it has carefully provided for the protection of the shipping and traveling public against extortionate charges and unjust discriminations, has been singularly forbearing and liberal in leaving the railroads at liberty to adjust their rates and their traffic arrangements in their own way and to any extent short of grievous contravention of the common law principle that common carriers' charges shall be just and reasonable in all cases, viewed in the light of the circumstances affecting each case. Georgia has a railroad commission, it is true. The commission has been in existence for ten years. But besides standing as a sort of committee of vigilance in behalf of the common law principle above indicated, it has been studious to maintain the best conditions

possible for the freedom of railroad enterprise and for the security and prosperity of railroad investments. There is no law in Georgia to prevent or suppress railroad combinations in the nature of pools or agreements in abatement of competition. The Georgia commission was not established to compel competition between railroads, but simply to see that, whether acting separately or collectively, they shall serve their customers at reasonable rates and subject none of them to unjust discriminations. The consequence is, as the Atlanta Constitution observes, "it is a matter of indifference to the people of Georgia whether the corporations compete with each other or not. The commission compels them to charge reasonable rates whether they operate as single lines or in combination." Not only this, but it is found in line with true public expediency to encourage railroad combinations and to promote their scientific development in the direction of improved economy and greater operative facility. For it is found that in proportion as railroad combinations are developed in this direction, rates of transportation are made cheaper to the people than they would or could be if the lines were by choice or by compulsion operated separately and under different managements. But Georgia has its contingent of anti-railroad agitators as well as Texas, and they have procured the introduction in the Georgia legislature of a bill known as the Olive bill, and designed to force the railroads to abstain from any form of combination, to operate separately and inharmoniously, and to wage with each other a perpetual war of competition. The measure seems to be similar in spirit to the Texas laws which drove the traffic association out of the State, and broke up smoothly working systems into ricketty and incoherent fragments. It has alarmed the intelligent conservatism of Georgia, and this element is aroused in opposition to the proposed change and in favor of the continuance of the policy of forbearance and liberality which has had so fortunate a representative in the personnel of the Georgia railroad commission.

Among the protests to the legislature against the Olive bill is one from the citizens of Schley county, Georgia, who in a meeting at Ellaville unanimously resolved: "We want the building of railroads in our grand old State encouraged, and the work to go on until everybody in the State shall have all the railroad advantages they want. We have investigated the Olive bill, and are satisfied that its passage would deter the building of new railroads and be detrimental to the interests of the public at large."

This is doubtless a fair sample of the spirit and conviction of intelligent conservatism throughout Georgia. We have beyond question a like conservatism in Texas, but unfortunately it has not had the mastery which it should have had in the politics and legislation of the State. As a consequence, shipping and producing interests in Texas are threatened with pulverization between the nether millstone of State laws against freedom for railroad traffic and the upper millstone of the national interstate commerce law, and the largest and most sensitive business interests in the State, consciously or unconsciously, yearn for the blessing of having rates and traffic managements restored to what they were before the day of this duplicate legislation for the enforcement of the long and short haul rule and the elimination of pools.

Messrs. C. R. MAKEPEACE & Co., in an advertisement elsewhere, invite estimates for erecting buildings and furnishing machinery for a cotton mill of 25,000 spindles at Galveston, Texas.

IRON AND COAL.

Limonite Ores and Cannel Coal of the Big Sandy Valley.

SOME GENERAL NOTES ON THIS PART OF KENTUCKY.

A George Washington Survey and Other Matters of History.

MANUFACTURERS' RECORD'S
RECONNOISSANCE.
IN THE FIELD, NEAR WHITEHOUSE, KY.,
July 16, 1889.

The Chattahoochee Railroad, since its formal reorganization last Monday called the Ohio & Big Sandy Railroad, runs up the valley of the Big Sandy river to Richardson, a distance of 50 miles. Thence for another 8 miles it operates, for freight only, a piece of railway belonging to the Chicago, Cincinnati & Charleston Co., bringing it to Whitehouse, in Johnson county, where there are important cannel coal mines, of which something will be written in this paper. On the line of the Ohio & Big Sandy, between Ashland and its terminus, the other points of special interest in connection with the rapid reconnaissance which is all that our time will allow us to devote to this line across Kentucky, are the ore and coal developments near Louisa, the county seat of Lawrence county, and the extensive bituminous coal mines at Peach Orchard.

As we should not have to leave transportation north of Whitehouse, I sent the only member of the party who had yet joined me ahead to make arrangements for next week's work in the next lower tier of counties, with instructions to meet the rest and to join me at the Breaks of the Sandy, on the Virginia line. Col. Jay H. Northrup, general manager, offered the courtesies of the Ohio & Big Sandy Railroad, and to accompany me on an excursion around the Louisa ore localities, and with him and his superintendent I started from Ashland on Saturday, reaching Louisa in time to take horses for the ore beds.

Possibly it may aid the reader to a better idea of the valley we are traversing if a few generalities with regard to it are here interpolated. I am indebted to a local history, accepted by the "oldest inhabitant" as reliable, for the fact that the Big Sandy valley, from the mouth of its river, where that stream enters the Ohio, extends 150 miles south, and has an average width of 70 or 80 miles east and west. The valley is drained by the Big Sandy, otherwise called the Chatterawha river, with its Levisa and Tug forks, ably assisted by their numerous and useful tributaries. Among these may be mentioned Blaine, Pine, Johns, Paint, Beaver, Rock Castle, Wolf, Pond and Peter creeks. All of these creeks are good logging, and nearly all good rafting, streams. On the east side of the Tug fork, which forms the boundary between Kentucky and West Virginia, the tributaries are Pigeon, Sycamore and many smaller creeks. This hydrographic system drains a part or all of Boyd, Lawrence, Elliott, Morgan, Magoffin, Martin, Floyd, Johnson, Pike, Perry and Knox counties in Kentucky; Wise, Dickinson, Tazewell and Russell counties in Virginia, and McDowell, Wyo-

ming, Logan and Wayne counties in West Virginia. The Big Sandy is navigable for steamboats as far south as Pikeville, 105 miles, and its Tug fork for 90 miles.

Near the town of Louisa there stands a noble poplar tree, not far from the river. Its loneliness attracts attention, because it is undoubtedly a fine piece of timber, and it is plain that "all its lovely companions" are long since faded and gone into saw logs. But it happens to be the corner mark of an old military patent, and the curious visitor is shown a blaze on the trunk with the legend cut in the bark: "G W 17"—the latter part of the date has grown up out of recognition, and I was unable to learn the exact year it represented, though doubtless it was sometime in the fifties of the eighteenth century. It is certain, however, that the particular survey was made by George Washington while he was on a surveying expedition up the valleys of the Kanawha and Big Sandy rivers. Perhaps the locality made an impression on the historic Virginian, and he may have mentioned it on his return home, for although some years elapsed before the first attempt at settlement was made in the Big Sandy valley, the earliest effort in that line was within sight of the Washington poplar tree. This happened in 1787, under the auspices of one Vancouver, who also discovered that the neighboring Indians entertained such decided objections to his enterprise that he was induced to reconsider the motion and to go home. In 1789 settlers tried to locate at the junction of the river with its Tug fork, near Catlettsburg; also at another place on the Tug at the mouth of Pigeon creek. The pioneers referred to took Mr. Vancouver's view of the prospects and retired. But by 1790 there were block houses built at Pikeville, several on Prater creek, and then the savages ceased to interfere with immigration to the valley. When that condition of affairs became substantial, settlers came in pretty fast, until by the year 1806 about all the ancestors of the present population were on the ground hunting, trapping, trading in the skins of bears, deer, buffalo, wolf and fox, not to mention the coon; gathering the fragrant ginseng, and tapping the hollow bee trees. They grew flax, and their wives and daughters transmuted it into fine linen. They ground corn in hand mills, "shortened" their biscuits with bear's grease, for want of something better or worse, and were altogether great, happy and prosperous, according to the belief and testimony of their admiring descendants.

So we took the train for Louisa, passing the lively and handsome 2,000 town of Catlettsburg, where there are neat looking churches, attractive homes, two banks, several large and many other mercantile houses, and a general appearance of thrift and enterprise. Catlettsburg, but a few miles out from Ashland, has a fine trade by rail and river with the upper country. One dry goods concern is said alone to sell \$350,000 worth of goods. The other stations as far as Louisa are unimportant, save that they all appear to be local shipping centers of some importance, and four of them have saw mills near by.

Whatever else may be said in praise or blame, it is impossible to glide along this valley without becoming enthusiastic over its beautiful scenery. The mountains are not high and awful in their sublimity like the Rocky Mountains. One sees taller peaks in North Carolina, and even Kentucky; but what cannot help arresting attention and interest is the satisfying beauty of the panorama. Far as the eye can reach, across the river into West Virginia or on the hither side, successive ridges of verdure-clad hills fill out the vista along countless creeks, branches and coves to the limit of vision. Cleared hill sides, green with waving corn, alternate

with thick masses of lordly forest trees, and these give way to breaks of valley and billowy with wheat, or covered with fruit-laden orchards. Here and there the windings of the river, visible for long distances through high hills; overhung by great toppling outcrops of sand rock, present views that would excite the soul of the landscape painter, and break the bank of the amateur photographer. Alas! why cannot one live always and revel in these gentle dreams? As the elder Mr. Weiler observed of Sammy's valentine, I am much afraid that the foregoing "werges on the poetical," and that hardly comports with the puritanical severity of our mission, which is rather to subject the mountains and valleys of these States to analysis in the interests of cold-blooded Mammon, than to cry their loveliness to mankind. Let us heave the sigh and, weeping a couple of tears, get down to solid business.

Yet vagrant fancy bids me begin business over again with a touch upon that most ridiculous of craft, the Big Sandy river *push boat*. Imagine the lightest sort of a light scow, with a length of 75 or 80 feet, about 7 or 7½ feet beam, and drawing when loaded something like six inches of water. It hath a small house or cabin on its tail end, where likewise is a long sweep by way of rudder. Its motive power is the human engine, represented by three or four lank but lively denizens of the valley. Much of the traffic in the upper waters of the Big Sandy, and its navigable Tug fork, is carried on by means of these boats, and they are not only used for mercantile purposes, but with more housing aboard afford homes to something of a houseboat population, illustrations of which you can see at the river points near the mines. It is an independent, vagabond sort of life; not conducive to thrift or even Boston culture; but it seems to suit its votaries well enough, and there is nobody else to satisfy forsooth. I saw one of these boats lying moored up near the Whitehouse mines in Johnson county that had a history. It reminded me of Artemus Ward's pirate boat on the Wabash canal. In former times its gallant crew, with spiked poles and ribald jest and song, were wont to push it up river among those solitudes where the liquid beams of Luna pale are gathered in kegs by means of mechanical appliances called stills. The pirate captain used to load his barge with such, and dropping easily down stream with the current, retail his cargo at prohibition landings at a dollar a quart. Tyranny, in the shape of some revenue men, after a while cut short the pirates' romantic career, and as a result of a single, sharp engagement with the minions of government, the captain and his crew were ruthlessly seized and carried off before the dread judge of the United States court at Louisville. I believe that now they drop the penitential tear within the stone walls of prison. Was it for this that our fathers fought and bled for liberty, and taught their children how to raise corn and to transmute the same into the tanglefoot of the period?

My friends who want to know about the timber of the lower valley will be interested to learn that the resources of poplar, white oak, and along the river bottoms, beech, will justify, as it is now doing, a large timber, lumber and stave interest. Let us understand these things as we go along. It is not the object of the reconnaissance to boom anything. It is our object to present any sort of Southern interest in as fair a way as the truth will admit.

II.

We reached Louisa, with its famous poplar tree, only to mount a few of the hardest horses that were ever evolved for the riding of man. Col. Northrup, who was a hard rider in the army, has a peculiar and wretched idea that man and horse can ride up and down a vertical plane as

easy as either can follow a macadamized road. We went to see the ore beds outside of Louisa, and I am sure that they are well worth a visit and investigation. If there is any hope for the future of the limonite deposits, it is on the line of the Ohio & Big Sandy.

There is a general proposition that iron ore must be in proximity to and associated with coal to establish a basis for iron production. This association must be, as things go now, a scheme by which there shall be a fair chance to compete with the Birmingham district, which we may safely take as the standard of Southern development. So much for generalities.

MANUFACTURERS' RECORD readers have perhaps seen the ore works of Pennsylvania, Maryland, Delaware or the Northwest. In that case they know all about it and do not need to be told the difference between the different kinds of workings. Less informed people will find it a considerable difference as we go along between the pockets, unstratified ores of Eastern Kentucky, as far as we have gone, and for instance the stratified magnetic or the hematite ores of other States. Still it should be borne in mind that the pioneer iron district of the South—the Hanging Rock—existed for two generations upon the basis of these pockets of kidney ore, so called.

Bath county, Carter, Greenup counties—all the coal measure counties, one might say—are identified with this resource. The great and grave question is, is it existent in quantity and quality to justify either shipment or local development?

Having in mind some of my old experiences in the range of counties below, I struck out from Louisa rather incredulous as to the existence of ore thereabouts in paying quantities. I suppose the reader will think we never took horse, but we did at last, and did some "ground and lofty" riding too. Col. Northrup is one of those people who are thoroughly adjusted to their environment. It happens that his home environment consists of a series of precipitous mountains over which he, and any unfortunate visitor, ride up and down, mostly on vertical planes. Give him anything equine or asinequine, and he will go anywhere and lead the pilgrim and the stranger anywhere that a fly could walk. I write this feelingly and thought it all out as I had my supper neatly laid out on the mantelpiece. One gets tired of sitting all the time, especially after such a jaunt as I had with Col. Northrup. We got on our assorted animals and started for the ore banks, which are as thick as chestnut "leaves in Vallambrosa" all around Louisa. The ores are all of the limonite or kidney variety common to the coal measures, and none of them are stratified, except possibly some carbonated iron stone ores which I did not get a chance to examine. But you may say that the whole line I have been over so far, lying within the coal measures, has only the limonite ore to show. Perhaps there may be a mistaken notion that there is not much of this, but any such idea would be a mistaken one. There are millions of tons in sight in one county or another, and the only question is one of economy of gathering and utilizing it.

I must say that what I saw in and on the many mountains about Louisa afforded me a good deal of surprise. As I have remarked, there has been never any doubt about the excellent quality of these limonites, which used to supply the country with its tough, fibrous car wheel iron made with charcoal; but never in my experience have I seen as much of it exposed. Not to weary the reader with technical details, there is a mountain locality a few miles from Louisa, known as "Three Mile." Here the hills are high and heavily wooded with oak, ash, poplar, hickory—with beech on the lower and pine on the highest

places. The merest observation serves to show that the whole country is underlaid with coal, and fine bituminous coal of various kinds. What is more interesting is the fact that on each hill for miles, and occurring with the alternation of sand stones and shales from drainage, to the summits of these mountains, there are well defined bench deposits of ores, all of related character, all coming generally under the designation of limonite, and all occurring in "runs" of two or two and a half feet thick. The iron resources of the vicinity have been very thoroughly put in condition to give experts a good idea of their extent. We visited not less than fifty openings, all made with intelligent care, and there can be no doubt that several million tons of ore are represented by them. I counted six such "runs" on an area of about 4,000 acres over which we traveled. I was shown analyses made by Dr. Peters, of the Kentucky Geological Survey, and others, going to prove that these ores would average all the way from 40 to 50 per cent. of metallic iron. The only question that could occur is, can they be gathered and put in furnaces cheaply enough to stand competition with the stratified, massive ores of the Birmingham and other like districts? Developments so far made have been on the basis of shipment to the furnaces at Ashland. It has cost to get out the ore by hand labor about one dollar per ton, to which should be added an excessive charge of 40 cents to get the ore f. o. b. cars of the Chattahoochee Railroad. The freight to Ashland has been 40 cents; so it is easy to see that the cost of these ores delivered at Ashland has been \$1.80, and they have sold there to the furnaces at \$3 per ton—a good enough business if you had much of it! There is a project, favored by Col. Northrup, to put in steam shovels, and by means of the same to completely strip the benches from the bottom to the top of the hills. The idea is to run switches from the railway up the branches commanding the ore and to take in whole territories. It seems feasible enough and the figures are alluring. It is claimed with apparent reason that ore could be thus delivered at the railway at a mining cost of 50 cents per ton, with 25 cents added to put it on the cars. Add to this 40 cents freight and you have the ore at Ashland at a cost of \$1.15 per ton. Granted that the furnaces in the Hanging Rock region will be able to live, considering other elements of cost in production, and there is probably a good thing in gathering and shipping these ores. But that is a serious problem. The one successful furnace at Ashland is running on a specialty. The Ashland Iron & Coal Co's furnaces are making a grade of pig iron largely from the rotten ores of Bath county that, intrinsically, would have small showing in the market, but which as a softener for hard Southern irons commands a fancy price. How long this advantage may last remains to be seen. I should say that with the infinitude of brown hematite ores in Alabama, the people there might easily devote a furnace or two to the production of "softeners," and compete with our Ashland friends. Outside of this special enterprise it struck me that iron—the ordinary run of legitimate furnace production—could not be made at Ashland much under \$12 per ton. The Norton iron works there are out of blast; the splendid Etna plant, which cost something like a million, over the river in Ohio, is idle, and generally the iron business in the Hanging Rock region is at a low ebb. It seems to me that nothing short of a "boom" in iron could dig it out of the hole it appears to be stuck in.

While on this excursion we literally dropped down a ravine to a place where there is a remarkable coal opening, showing 61 inches of fine splint coal, which I should say, and Dr. Peters' analysis sug-

gests, will make good furnace coke. People interested in the Chattahoochee extension seem to have an idea that, as this coal occurs in the same hills with any quantity of limonite ore, a furnace might pay on the spot. If I could eliminate the observation of several years as to the treacherousness of pocket or concretionary ores, I should be ready to believe that a furnace could be established at the point mentioned, and that it could fairly compete with the Birmingham district in the cost of pig iron production. At least the situation is worthy of the attention of capital. The capitalist who wants to see the thing as it exists could not do better than spend a few days with Col. Northrup at Louisa.

From the last mentioned point we went to Peach Orchard, about 20 miles farther up the valley. Here the Great Western Mining Co., of Ashland, have a boundary of 6,000 acres of coal land, and are working a fine mine on the coal designated as No. 3 of the Kentucky geological survey. The plant is a complete one, comparing favorably with the best examples of such mines in Tennessee and Alabama. The vein of coal is six feet thick with a foot parting. Present shipments are about 250 tons per day, with a present capacity for nearly double the current production. The manager of the mines, Mr. Lewis Johnson, is experimenting to see if the coal will make a commercial coke. There is every reason to predict that it will. Shipments are made to Cincinnati; by rail to Ashland and thence by boat. The freight to Ashland (47 miles) is 40 cents; Ashland to Cincinnati (145 miles) 25 cents; total, 65 cents from mine to market, or within a fraction of 2.95 cents per ton per mile. I am becoming a convert to river transportation as far as coal is concerned. One can get a whole boat-load of coal—say 500 tons—carried from Ashland to Cincinnati for \$25. So you will observe that water has its uses even in Kentucky. The selling price of such coal as the Great Western Co. mines is stated at \$1.65 at Cincinnati, and the margin is therefore small to the miner. But the mines hereabout do not pay their miners on the "run of the mine" basis. Anything smaller than lump and nut is regarded as waste, and if anything can be made from it that is so much to the good of the proprietor. In addition to the Cincinnati market, the Peach Orchard mine also reaches the Scioto valley in Ohio, Chicago and many local points along the Chesapeake & Ohio in Kentucky. The enterprise has all the appearance of being a successful venture.

We took in the Peach Orchard mines en passant. There is so much excellent bituminous coal in Kentucky that really it doesn't count. There is enough on a wasteful schedule to run the world for as long a time as our descendants may need combustion—and after that Kentucky will have coal to sell. But when one comes to think of canal coal, that is quite a different matter. I can remember when we used to pay \$16 per ton for English canal coal in New York, and I am willing to make affidavit that it was not as good as Kentucky canal coal either.

One of the best and representative canal coal mines in this State is situated at Whitehouse, in Johnson county, on the Big Sandy river, and that is where the expedition is resting for a few days now. Everybody has heard about the famous Breckenridge canal coal in the western coal field of Kentucky, and of the only less famous canals of Breathitt and Perry counties. Take the outcrops of either, or any Kentucky canal district, and the prospector would imagine he had enough of the stuff to supply the nether regions with fuel for a time sufficient to satisfy the most ultra Calvinist. But stick your little old diamond drill into the hill and you will find appearances delusive and snareful. As all of our scientific readers

are aware, the accepted theory is that canal coal was formed from the finer particles of the coal forming plants in the bottoms of the lagoons which were associated with the swamps of the coal forming period. People familiar with swamps will readily picture to themselves the irregular character and varying extent of these lagoons. Take the long edge of a narrow one for instance and you may find an outcrop of canal coal persistent for miles. Buy it on that basis and attempt to develop it, and you may purchase more interesting experience than you do canal. Some of my friends and I have departed money which says that this is so. I do not mean that all the Kentucky canal mines are to be judged in this way; because some of them are rich and extensive; but I was told the other day of a company which bought 10,000 acres of canal coal lands and only found 19 acres to carry canal in quantity worth mining. All the same, the world will have to look to Kentucky for the greater part of its supply of this splendid fuel.

I am inclined to write a little about the scenery and the apparently fertile bottom lands between Louisa and Whitehouse, but will spare the reader for this time only. I was attracted by the phenomena of brown and withered branches on nearly every tree in sight along the road, and finally enquired of a habitant what the same might mean. I learned that the blight resulted from the stings of 17-year locusts, which pleasant insects had left here about three weeks ago, after a visit of nearly ten weeks' duration. It used to be said that when the locusts came, the Asiatic cholera also put in an appearance. God send it may not prove true in 1889! But with regard to the Whitehouse canal mines: We reached the place late in the afternoon, and were struck with the neat, orderly and thrifty appearance of the camp. Mr. Elwood, the superintendent, met us and ferried us across the river and found quarters for us in a nice country public house, where the eggs were genuine hens' eggs, the buttermilk above suspicion, and the coffee real coffee.

This is one of the exceptional canal mines. On a hill and sub-hills covering probably an area of 200 acres or more, openings have been made on the canal horizon (No. 2 of the Kentucky survey) on every side, and with the result that everywhere the conditions are stable and coincident. What is seen in the main entry is seen everywhere else. There is a roof of slate, under which you find about 14 inches of fair bituminous coal. Then canal coal from 24 to 32 inches, and under it all, a floor of fire-clay as level as a bowling alley and as hard as a sinner's heart. All the conditions for economical mining are present, and I have seldom seen anything in the coal line that I thought would pay as well. Miners get 80 cents per ton, and can get out from 2 to 2½ tons per day. Nearly all the workmen are natives, and appear to be happy and contented. From what I could learn I should say that it costs the mining company about \$1.15 to put the coal f. o. b. cars at the mine. This would represent a cost of say \$3.25 at Cincinnati, where there is a considerable market for the commodity. This year Chicago will take nearly 15,000 tons, and the fuel is breaking its way into club and fashionable life in New York.

Dr. Peters, chemist of the Kentucky Geological Survey, has given us an analysis of this canal, which may be of interest:

Specific gravity.....	1.301
Hygroscopic moisture.....	2.00
Volatile combustible matter.....	38.30
Coke.....	39.80
Total.....	100.00
Total volatile matters.....	40.30
Fixed carbon in coke.....	51.00
Ash.....	8.80
Total.....	100.00

The foregoing, understand, is an average of the mine. I have seen analyses where the volatile combustible matter—the measure of cannel excellence—ranged as high as 57, but I rather think that few mines will hold out better on the run than the Whitehouse. Structurally, the Whitehouse cannel is as handsome an article as I ever saw. It must prove a great financial resource to its owners and a fine freight producer to the Ohio & Big Sandy Railroad. Adjoining the mine of the Whitehouse company there is another one owned and operated by the Sandy River Cannel Coal Co., a Chillicothe (Ohio) corporation. It has a like capacity with the Whitehouse, and gets out about 50 tons a day. It only controls an area of 80 acres, which must be worked out in a comparatively short time. On the other hand, the Whitehouse company has something like 20,000 acres, much of which seems to promise to be as good as the territory now under practical development. Outcrops of cannel, on the horizon of that being worked, are to be seen on the opposite hills. It looks very much as if Col Northrup had struck the middle of a large cannel basin. Judging from the limited observations we have been able to make so far, I should say that there are some things in the Big Sandy valley that capitalists ought to consider, and not lose much time. Take the probability of the existence of a wide cannel coal basin alone, and there should be enough in it to found many successful mining enterprises. Nothing is more certain than the fact that cannel coal will sell in all the large cities and at a high price as an article of luxury. Certainly the cannel coal lands on the Ohio & Big Sandy Railroad deserve attention.

Sunday morning we noticed a marked activity about the Whitehouse camp. Dames and damosels came out in their best, and even the harmless, necessary men folk appeared in Sunday clothes. I sought the reason and was told that there was a "sacrament meetin'" down at the log preaching house, about a mile from the settlement. The denomination of Christians celebrating these rites is known, I believe, as the United Baptists, and when there is a "sacrament meetin'" they also perform the ceremony of washing the feet of the disciples. There is preaching of course, rather a surfeit of it one might say, for two and even three of the brethren who "claim to have got the public gift" go through a complete sermon. Salvation Army song like "He's the Lily of the Valley" and that sort of thing, and several prayers, notable rather for length than quality, make up the services to the point of exceptional interest. When the bread and wine have been devoutly attended to, one of the deacons produces a couple of tin wash-basins and two towels. He hands one of each over to an elderly sister and then they proceed to wash feet, beginning at the top pew. In this interesting ceremony the sexes are separated. Sisters only wash the feet of other sisters and so on. It might possibly strike one that the water was not changed as often as its color seemed to suggest, and that a larger supply of towels would hardly harm anyone, but what's the difference? Many fashionable city churches might have to rake pretty hard to find among their congregations as many earnest, humble, practical Christians as we saw last Sunday assembled in that poor, little, tumble-down log meeting house.

A pen slip in my previous paper made me connect Mr. Bates' South Atlantic & Ohio Railroad from Bristol, Tennessee, with the Chattahoochee road. I meant, of course, that when completed it would connect with the Eastern Kentucky. We shall be away from the ordinary lines of communication now for about ten days. To-morrow we start for the Breaks of the Big Sandy to view the same, and likewise to feast our eyes upon the coking coals and reported finds of Clinton ore in the Pine Mountain.

GOLDSMITH BERNARD WEST.

JUTE CULTURE.

What It Will Do for Southern Planters.

An Industry that Promises Great Things.

[Special correspondence MANUFACTURERS' RECORD]

WASHINGTON, D. C., July 22, 1889.

The article in the MANUFACTURERS' RECORD last week on "Other Vegetable Fibres than Cotton" was read with much interest by Southern people here. At the Agricultural Department it was pronounced worthy of wide distribution. Certainly the article was timely, as this department is now making special investigations into the subject of filamentous plants.

Since the agitation of the jute question throughout the South, numerous enquiries have been received at the department in regard to jute culture, but all these enquiries have been of a general nature. When I went over to-day to look up the subject for the MANUFACTURERS' RECORD Dr. Taylor welcomed me with the remark, "you are the first person to make an investigation into the practicability of jute culture in this country." So the MANUFACTURERS' RECORD has the pleasure of being the first journal to lay the jute question before the Southern people.

The fact that jute can be raised in the South is a settled one, as shown by your extract from the "New South." Several spasmodic attempts have been made to raise it in Louisiana, Florida, Texas and other States, and in each case success was attained, but for some reason or other the matter was dropped.

With the question that jute can be raised settled, all that remains is to enquire whether it is worth while to go into the extensive raising of it, and, if so, why.

The jute plant is native to Southern Asia and adjoining islands, and is of two leading kinds. One plant is tall and slim, not much larger round than your little finger. The other is not quite as tall, but is larger round, so that as far as the amount of fibre obtainable from the stalk goes there is little choice in the plants. The stalk grows from 8 to 12 feet high. It is straight and cylindrical, and seldom branches out except near the top. The leaves are about six inches long and from an inch and a half to two inches broad at the base. They taper into a sharp point and have a saw-tooth edge. The blossom of the plant is yellow and grows in clusters of two or three.

Jute has always been in India what flax has been to Ireland and cotton to the United States, but within the last quarter of a century it has been extensively introduced into the world of commerce for making coarse grades of cloth, particularly gunny bag, or as we call it in the South, bagging. Probably the great hindrance to the introduction of jute growing into the United States has been the tedious and uncertain operation of making the fibre marketable after the crop of stalks is harvested. This operation is as follows: The stalks are cut and bundled, and perhaps stacked in the field for a few days. They are then carefully packed into pits where they can remain covered with water until the bark is rotted off. If they remain in this pit too long, the strength of the fibre is reduced, while if they are removed before the bark is rotted, the fibre is uneven. If the water is running water, it is apt to impregnate the fibre with sand, and thus make it gritty. The care used

in this operation depends upon the use to which the fibre is to be put. If white cloth is to be made the water must be clear, the leaves of the jute carefully removed, and every precaution taken to prevent discoloration of the fibre. When only bagging fibre is desired, much of the tediousness of this rotting is done away with.

The stalks are harvested during flowering. Before the flowers bloom the fibre is weak, while during the setting of the seeds the bark becomes somewhat tougher, the fibre harsher, and thus more difficult of manipulation. After the fibre is secured it is washed, carefully dried, then put up into bunks ready for market. In India, jute is frequently planted on rice lands, as it seems to eradicate certain kinds of weeds that are very injurious to the rice.

Jute is a vigorous-growing plant, and the experiments made in Louisiana and Florida have demonstrated the fact that two crops can be raised each year. Thus the value of the crop over many others is doubled. Some authorities who have averaged the cost of cotton and jute crops, claim that jute pays better per acre than cotton. But jute is rather particular as to the soil in which it is planted. To thrive well it should have rich land and sufficient moisture. It can be planted broadcast or in rows.

The most interesting result obtained in the experiments was the discovery of the fact that jute seems to have an antagonistic if not poisonous influence over certain insects, and especially the caterpillar tribe. So by planting a belt of jute all around a cotton field, it is claimed that the depredations of the insect enemies to the cotton plant will be very materially checked. The growth of the jute is so rank and vigorous that no parasite can check it. If further experiments should substantiate this poisonous influence of jute over insects, it would be economy for cotton growers to surround their fields with jute for this protection alone. But with the great commercial value of the fibre cotton fields could be made to pay a considerably larger profit than they now pay.

American ingenuity has already made great improvements over the methods pursued in Asia, which I have already described, for obtaining the fibre. One improvement is to crush the stalk into a flat mass or ribbon. The rotting process is thus greatly accelerated, and there is no danger of rotting the small end too much and the large end too little.

This process of decortication is of great economic value, but directly in its wake comes another invention of still greater value. It is none other than a machine to make fibre from the green plant. It is a portable machine run by steam, neither very heavy nor very costly—under \$300 I believe.

Jute raising is now as simple as wheat raising, and I can see no reason why these machines for preparing the fibre should not be used in the same way that threshing machines are now. The great scare-crow, the rotting operation, is done away with, and after the farmer has harvested his jute he can run it through the machine and at very slight expense raise the raw material for making bagging that he is now paying some man in India to raise for him.

I think the time is not far distant when jute will play second fiddle only to cotton of the staple crops of the South, for as the MANUFACTURERS' RECORD stated last week, the farmers of the South can not only put into their own pockets the money they are paying planters in Asia, but they can save the cost of transportation paid English ship-owners, and finally they can build factories to manufacture their own bagging rather than pay some Northern manufacturer to weave the fibre raised in the South than return to the

planters who raised the jute the manufactured article.

But this is not the bottom of the jute question by any means. There is considerable waste in the process of preparing the fibre. This waste and the roots are excellent paper-making material, and are imported to the extent of many thousands of dollars every year. Oil is extracted from the seeds in India and used to a limited extent for burning, while the meal, and sometime seeds, too, are used for feeding stock, but the value of these seeds does not begin to compare to that of cotton seeds.

Jute makes the best of twine, and if the South can raise the fibre and weave the bagging, why can it not make the twine to supply the reapers of the country?

I learn that excellent jute twelve feet high was raised in Orange county, Fla., a few years ago. Jute grows well on rice and sugar lands, and with the present depression of both the rice and sugar markets, and with the high price of fibre, jute should be a splendidly paying crop. Some of the experiments in Louisiana showed that 4,000 pounds per acre could be raised.

After learning this about the plant and the culture of it, I enquired in regard to seeds. The department has no seeds at all on hand now neither has it any ordered but I was requested to tell the Alliance, and farmers of the South through the MANUFACTURERS' RECORD that if they are willing to test jute culture and will so inform Commissioner Rusk, he will order directly from India through government agents a supply of seeds and gladly distribute them. The department has watched this movement in favor of jute culture from its inception and will do anything in its power to further and aid it.

H. L. ALDRICH.

To Make Soda From Salt.

According to the Louisville Courier-Journal, Dr. J. P. P. Barnum perfected and obtained letters patent upon a process for making soda in various forms from salt, which it is intended to put into operation at an early day at or near Brandenburg, Ky., where all the necessities are to be found in large quantities, and which are now being practically wasted. The articles required are salt water, lime rock, fuel, ammonia, pure water and sulphuric acid. All these, excepting the ammonia and sulphuric acid, can be had free, being natural products.

It is claimed that soda and soda salts can be manufactured and sold at the cost of transportation from New York. The process just patented is not a new one altogether, but it is an improvement upon one put into operation in 1836 by Ernest Solvay, a Belgian chemist. There have already been 243 original and reissues of patents in this connection in the country, but there is only one factory in the United States, located at Syracuse, N. Y. This being the case, nearly all soda and soda salts must be imported from Europe at a heavy cost. Statistics show that, for the fiscal year ending June 30, 1888, there were imported into this country 568,906,278 pounds of soda in its various forms, valued at \$7,103,927 71; on which the duty was \$1,067,829 81. This includes bi-carbonate of soda, bi-chromate, caustic or concentrated lye, sal-soda, silicate of soda, salt cake, sulphate of soda, soda ash and nitrate of soda. Duties on these range from one to three cents per pound, salt cake being 20 per cent ad valorem and nitrate free.

By the plant and system to be used by Dr. Barnum, he claims that he can sell these articles at a great reduction, saving the duty and cost of transportation from Europe, and from the seaboard to the interior. It is the intention to erect a plant at or near Brandenburg and begin the manufacture as soon as possible.

SOUTHERN COTTON MILLS.

The South Can Make Fine Goods as Well as Coarse.

[Written for the MANUFACTURERS' RECORD.]

What kind of goods will the new mills built in the South during the next five or ten years be equipped for making? This is a question which interests both the manufacturers of the North and South, but for different reasons, and we had almost said opposite reasons, but it is not wholly so. Never before in the history of manufacturing in the South were her manufacturers so wide-awake to the importance of surrounding themselves with every possible advantage they can secure in the way of the most improved styles and methods, not only of economic construction, but in the equipment of their mills from the spindle, or we might say from the lap to the cloth.

They are building well; they are purchasing as low as cash will purchase, and they are planning and having their mills arranged for converting the raw cotton into the finished fabric at the lowest possible cost. Now the question as to what the mills that are contemplated for the near future throughout the Carolinas, Georgia and the Gulf States will make interests the Southern mill owner, because he is strongly desirous of making something different from that he is making at present, and is on the alert to find something for which there is a steady demand, and at prices that will secure him a fair profit. The manufacturer in New England is interested in this question because he is perfectly aware that it is useless to try to compete with a well-equipped and ably managed mill (and there are many of them) located at any favorable point in the cotton belt and making coarse goods; by coarse goods we mean such goods as standard sheetings, drills made from an average number of 13 yarn, and the Southern mills will take from their hands any style of goods they may select to manufacture as completely as they have standard sheetings.

Let us consider this a moment and see what conclusion we arrive at. Now it is well known that one of the chief advantages in favor of the Southern mill is cheap cotton, and for this reason alone they have made only coarse goods, or in other words, have had an advantage and made the most of it; but in so doing have they not and are they not to-day losing sight of another advantage worth equally as much. We refer to cheap labor. It is true they have also at all times had this advantage and used it, but not so as to make the most of it, and because, chiefly, they were not making a class of goods that would allow them to make the best of this advantage.

The statement is often made, "but the South cannot make the fine goods, as they have neither the help nor climate that is necessary."

Well, it is all talk, and the talk of men who never were outside of their own town, or perhaps mill, and certainly have never visited the Southern States and seen for themselves. Will a mill on fine goods, say average No. 30 yarn, pay in the South? Yes. Have they the climate and the help necessary for the manufacture of such goods? Yes. Is there a good demand for such goods? Yes. Will it always continue? Yes, or it always has, and the country as well as the world is growing. But will not the building of so many mills in the South overdo the thing? No, not if it is simply transferring the location of the mill from one point to another. Then

why do not the Southern mills make finer goods as well as the coarse goods? We do not know fully why, but we know that they will; and strange to say, it is because they are forcing themselves to do so. Fifteen years back, the competitor of the Southern mill on standard sheeting was the New England mill; to-day it is the next-door neighbor. While they were competing with the New England mills, surrounded with their natural advantages, their profits were large, but when it becomes necessary to compete among themselves they lose these advantages. Now, we say the Southern mill should go on to the finer numbers, and secure to themselves, so far as possible, the advantage of having no competition among themselves.

Then their great advantage becomes not their cheap cotton (though this is still important), but cheap labor, because the chief item in the cost of the higher grade of goods is the labor. We can also mention in this connection one advantage of a mill on the finer counts over that of one on coarse counts; it is the low cost per spindle of the mill on finer numbers as compared with the coarse mill, and consequently the amount of capital required is much less in one case than in the other. One might ask, would you advise the erection of a mill for making print cloths in the South? Well, let us see, and then each one draw his own conclusions.

It is claimed, and we believe it to be true, that a mill can be erected in Fall River, Mass., for making print cloths for \$18 per spindle, and we believe this can be done in South Carolina or Georgia for the same money, for while the freights would be more on machinery, still the saving in the cost of building would more than make up the difference; for a mill here that would cost 80 cents per square foot of floor space, would not cost over 55 cents per square foot in either of the Southern States last mentioned. But let us assume, then, that the mill built for making print cloths or similar goods made from same numbers of yarn or thereabouts, would cost \$15 per spindle, then a 40,000-spindle mill would cost \$600,000 complete. This mill would produce 10,000 pounds of goods per day, and judging from the cost of making such goods in the South to-day, (and the figures are not assumed, but taken directly from the cost sheets of mills making print cloths numbers,) these goods would cost, adding cotton, (at 11 cents per pound,) labor, fuel, supplies, officers and insurance, 19 cents per pound, while they would bring, after deducting commissions, storage, etc., 26 cents per pound, leaving a profit of 7 cents per pound on each pound of goods manufactured and sold. Now if the mill produces 10,000 pounds of goods per day, or 3,000,000 pounds per year, it will be a profit of 3,000,000x7 cents=\$210,000, or 35 per cent, on the entire cost of the plant. It is true that it is well for the Southern mills to move in this matter moderately, but there is no reason why the help in Southern cotton mills cannot be easily taught to manufacture the finer counts, and we predict that within ten years such mills as the Piedmont, Clifton and Pelzer, of South Carolina, and others we could mention throughout the South, that are equipped for changing to the finer goods should they so decide, will find it greatly to their advantage, pecuniarily, to do so.

There is also a profitable field for the Southern mill in the manufacture of the finer grade of gingham, but they have not improved their opportunity in this direction, and chiefly because of the accepted notion that it is not profitable, if possible, for them to manufacture them. There is a good deal of talk on the part of the Southern manufacturer that is properly styled by his New England brother boasting, and still there are very few who at present realize fully the advantages they do possess.

A North Carolina Health Resort.

[Special correspondence MANUFACTURERS' RECORD.]

CLEVELAND SPRINGS, N. C., July 19 '89.

Before the first colonists penetrated this part of North Carolina, the aborigines came to these springs, and ever since white men have followed their example. Long before there was a house here people came by hundreds every midsummer and camped in the surrounding forests. Now there is a hotel that will accommodate two hundred people, and that by close packing can swell the host to three hundred guests. It is now nearly fitted to its standard. There are four springs in close proximity, one white and one red sulphur, one chalybeate and one freestone. The "ills that flesh is heir to" in the form of kidney, liver, bladder and stomach troubles, are alleviated and in most cases cured by the free use of these waters. It is no place for bronchial and phthisis sufferers, but for those afflicted with rheumatism, gout, dyspepsia, jaundice, malaria and any form of blood poison, it is a capital resort. The majority of the guests are Carolinians, about equally divided between the two States. It is a neat place for infants and young children to spend the hot months, and this brings the same families here year after year. One prominent citizen of South Carolina, who has visited here annually for nearly thirty years, says that to his knowledge more delicate children have been saved from death and raised to healthy maturity here than by all the doctors and drug stores in both Carolinas. I have no doubt of his statement, for I have seen in the past two weeks teething children arrive fretful and feverish, who in two days were completely cured, and became as happy and placid as their mothers could wish.

This place is two miles from Shelby, and is reached by the Seaboard Air Line system from the North, by the Carolina Central from the East, and by the "Three Co's" Railroad from the South. Carriages are at the depot to meet passengers of all incoming trains. The crops of this region are the best that have been seen for years, and the farmers and merchants are correspondingly cheerful. The stands of corn and cotton are in superb condition.

B S P.

Our Exploring Expedition.

This expedition is undoubtedly one of the most remarkable instances of enterprise which any paper in this country has ever undertaken, and is far ahead of anything of the kind ever before projected by any weekly journal in America. The MANUFACTURERS' RECORD has done a great work in the South in the past, and to that it now adds this brilliant scheme, to accomplish still more for this section. The heavy expenses of this exploring expedition will be borne solely by that journal.—Mac n (Ga.) News.

"WHEN Jacksonville erects a cotton warehouse, and makes a practical bid for capital," says the Times Union, "thousands of dollars now awaiting investment will come to this city. All that we lack here is what the North has in superabundance. No other city in the South has such a railroad service as Jacksonville has, and the cotton-growing sections of Florida are ready to pour their rich products into her lap as soon as they are invited to do so."

GALVESTON, TEXAS, is making considerable progress industrially, several important manufacturing enterprises having recently been started there. The latest undertaking is the Galveston Packing Co., organized for the purpose of cultivating and canning oysters. The company has surveyed an area of 6,000 acres, on which oysters will be planted.

Referring to the growth of Lynchburg, Va., a correspondent of the Advance says: "Look back for only a year. What do we see? Our people in a nervous condition as to the value of their property, with the only industry—tobacco—languishing; from 15 to 25 Main street business houses for rent, as many more on Fifth and Twelfth streets, with at least 200 dwelling-houses unoccupied. How is it to-day? The tobacco interest is growing. Real estate is on a steady increase, as shown by the large number of costly and improved buildings erected during the last twelve months, saying nothing of six or eight now under construction. There is not a business house on Main street for rent, with but one exception. Old Lynchburgers who have wandered off to golden fields are returning, and our streets present the best business appearance of any city in Virginia. We are at work on three railroads, the Lynchburg & Durham, the connection from the Virginia Midland to the cotton mill, and the first link of the belt road to the zinc works. Two depots are in course of erection, a roundhouse and shops for the Durham road, one among the largest cotton mills of the South, zinc works, three large brick-yards, working over 500 hands. Besides all this there are over 100 dwellings in course of erection."

A St. Louis man has invented a twin-hull adjustable keel ship which can be used in rivers or as a deep water ship. The adjustable keel is on the centerboard principle. It is claimed that a 1,000-ton vessel could be made to draw only seven feet of water, and that such a vessel could load at St. Louis or elsewhere on the Mississippi river direct for Europe. When in deep water the false keel could be lowered fourteen feet if necessary, thus giving great stability to the vessel. It would seem as if some such vessel ought to be constructed, giving cities in the Mississippi valley direct steamship communication with the outside world.

THE rumor that a large cigar factory would be started in St. Augustine, Fla., is now an assured fact. The News says: "There is no reason why all kinds of factories should not be operated here. St. Augustine can offer the best inducements to capitalists. Laborers and artisans can live as cheap here as in any city in the State, and to manufacturers St. Augustine's railroad facilities should be a big inducement. The city is almost surrounded by navigable rivers. Large vessels come in and out our harbor and it will be but a matter of a year or so when the water on the bar will be of sufficient depth to allow deep draft steamships to come and go in safety."

A REMARKABLE instance of newspaper enterprise is an expedition which has been sent out by the Baltimore MANUFACTURERS' RECORD to explore the mineral regions of the South. The want of definite information concerning the mineral resources of this section has been a serious hindrance to the development of mining and manufacturing industries. The expedition in question will contribute a great deal toward removing the impediment. The expedition will be composed of competent scientists and practical men. It will be engaged six months in prosecuting its investigation.—Lexington (N. C.) Dispatch.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

NEW DECATUR

ALABAMA

The New Industrial City of the Great Tennessee Valley.

DESCRIPTION OF ENTERPRISES ALREADY ESTABLISHED:

The Louisville and Nashville Railroad Company

have completed the erection of their new central machine shops and car works at Decatur, Ala., at a cost of about \$300,000, on a plot of ground of fifty-seven acres donated to the company for the purpose by THE DECATUR LAND, IMPROVEMENT AND FURNACE CO. The buildings comprise a machine shop, blacksmith shop, boiler shop, boiler and engine house to supply power to above buildings, foundry, wheel shop, oil house, round house, freight car shops, dry kiln, planing mill and carpenter shop, boiler and engine house for the wood-working establishments, passenger car shop, paint shop, two story and basement office building and various smaller structures. All these are brick buildings of the most substantial character.

The plans and designs were made by, and the work carried out under instructions of Mr. Middleton, the railway company's superintendent of machinery, who had made the plans for the machine shops of several of the largest railway systems of the Northwest. Only a small force will hereafter be kept at the company's old shops at South

Nashville and at Birmingham, for ordinary repairs. The new establishment at New Decatur will be the central shops for all the lines of the system from Memphis Junction, Ky., south to New Orleans. They are intended, primarily, for repairing locomotives and freight and passenger cars. They are, however, equipped to build new locomotives and freight cars, and whenever repair work is slack the hands will be employed on new work. The force at present employed numbers about 300 mechanics, but by the time the establishment is brought into full swing probably double that number will be kept on the company's pay roll; and when the buildings are enlarged, for which provision has been made in the plans and construction, the number will be increased to 1000.

Mr. W. P. Pike, who was formerly in charge of the Nashville shops, has been appointed master mechanic and Mr. M. K. Barnham, lately with the Erie railroad at Salamanca, N. Y., has been appointed general foreman.



NEW SHOPS OF THE LOUISVILLE AND NASHVILLE RAILROAD CO.

DESCRIPTION.

The **MACHINE SHOP** is in a building 125 by 127 feet, which may be enlarged to double its size—that is, 250 by 125, whenever required. There are six pits for placing locomotives for repairs, and in addition to these two more pits may be used for the same purpose in the round house, so that eight locomotives can be taken in hand at the same time. The machinery in this building consists of six lathes, besides a wheel lathe already in position, and four additional lathes to arrive; a driving wheel press, a rotary turning machine, a cylinder boring machine, by the Potts Machine Company, of Wheeling, W. Va.; two slotters, by the Niles Tool Works, of Hamilton, O.; a radial drill, by the Pond Machine Tool Company, of Plainfield, N. J.; a double headed planer and a two-point rotary turning machine, by the same company, besides a variety of smaller machinery. All the machinery is placed on large stone slabs on brick foundation.

The **BLACKSMITH SHOP** and **BOILER SHOP** are in a building 92 by 92 feet. In the blacksmith's department are 24 forges and two steam hammers, a bolt header and two bolt cutting machines. The draught for the forges will be supplied by a fan, which draught can be cut off as desired from any forge. In the boiler shop is an engine and punch.

The **BOILER and ENGINE** are in a separate house. The engine is a 200 horse power machine, by C. H. Brown, of Fitchburg, Mass., with a 14-foot fly wheel. The boiler is from the Phoenix Iron Works, of Meadville, Pa., and is 30 feet long. There is room in the building for additional boilers, should they be needed. Should the exigencies of the service demand it, the whole of this building can be given up to the blacksmiths, and a separate boiler shop be erected on a vacant plot of ground adjoining. Between the machine and blacksmith shops is a 60-foot wide traverse table of 244 feet travel, which also can be extended whenever the machine shop is enlarged.

The **FOUNDRY** is 84 by 92 feet, and is fitted up with a cupola of 30 tons capacity. Outside the building is a core oven. The brass casting department will, for the present, take up a corner of the foundry, but later on a separate building will be erected for it.

The **ROUND HOUSE** has at present twenty stalls. It is eventually to make a complete circle, when there will be sixty stalls for locomotives. The building is fitted up with a small engine, a drill press, lathe and small shaping machine, to carry on repairs at any time when the large engine may not be working.

There is a separate **WHEEL SHOP**, 82 by 51, for boring and mounting car wheels; it is provided with suitable machinery. The wood-working departments are entirely separate from the machinery and iron departments.

The **PLANING MILL** is in a building 123 by 72 feet and two stories high. The machinery is on the lower floor, the upper floor being used as a carpenter shop. The machinery has not all been erected yet, but includes at present a long planer for car sills, etc., a planer by London, Berry & Orton, which planes four sides simultaneously, also two tenoning machines, a cross graining and grooving machine for heavy work, two boring machines, a mortising and boring machine, and a pony band saw.

The engine and boiler for the wood-working department were moved here from the South Nashville shops. There is a **LUMBER YARD** near the planing mill in which the company propose keeping, on an average, about 5,000,000 feet of lumber of all sorts. Adjoining the lumber yard is a **DRY KILN**.

The **FREIGHT CAR SHOP** is a building 142 by 120, and has accommodation to build or repair eighteen cars at one time. The **PASSENGER CAR SHOP** is 107 by 92 feet, and affords accommodation for five passenger coaches at one time. The **PAINT SHOP** is of the same size as the passenger car shop. Between the two last-named buildings is a 60 foot traverse table of 258 feet travel.

The **OFFICE BUILDING** is 50 by 75 feet, and has two stories and basement. The basement will be used as a store-room for heavy goods. The offices of the master mechanic and the clerical establishment are on the main floor; the upper floor will be the general store room.

Near the machine shop a well of 40 feet diameter is being dug. In the meantime a supply of water is obtained from an artesian well 120 feet deep. There are two tanks on a high staging between the machine shop and the main line, one tank over the other. The lower one is for ordinary use and has a capacity of 47,000 gallons; the upper one contains 8,000 gallons, and is reserved especially for service in case of fire.

The **OIL HOUSE** is in a separate building. It contains nine large tanks, each 8 feet diameter and 3 feet deep, which are filled from the outside. The oil is drawn, as required, from pipes connecting with each tank in a closed room, where are also the bins for the waste cotton.

For Maps, Pamphlets and other Information about New Decatur, address

The Decatur Land, Improvement & Furnace Company, New Decatur, Alabama.

SHEFFIELD, ALA.

The Iron Manufacturing Center of the South.

At the head of navigation, on the Tennessee River, Sheffield is the natural outlet for the mineral and manufacturing products of Alabama and the neighboring States seeking a water route to points on the Ohio and Mississippi Rivers, and to the Gulf of Mexico, as well as the best distributing point over Alabama, Eastern Mississippi and East Tennessee, South Carolina, Georgia and Florida for Northern and Western produce, groceries, provisions, machinery, &c. Three Railroads already completed and in operation, and several others assured. Principal shops of the Memphis & Charleston Railroad, in which cars and locomotives are to be built, are under contract to be erected here. These will employ between four hundred and five hundred mechanics, and consequently, with their families, will make an increase in population of at least two thousand people. Shops of three other railroads are contracted to be located here, some of them being now under construction.

Five Completed Blast Furnaces,

HAVE A CAPACITY OF 700 TONS PIG IRON PER DAY.

Experts do not hesitate to say that iron can be manufactured more cheaply at Sheffield than at Birmingham, and its river transportation facilities will enable Sheffield iron to reach the principal markets at a saving of from

\$2.00 TO \$2.50 PER TON.

The quality of the iron produced is pronounced by consumers to be the best from any furnaces in the South.

The following are among the Corporate and Private Enterprises belonging to Sheffield:

- | | | |
|--|---|--|
| 1 The Sheffield Land, Iron & Coal Company, capital \$1,000,000. | 14 The Sheffield Mineral Paint Company, \$50,000. | 35 Knowles Knitting Mill, \$30,000. |
| 2 The Sheffield & Birmingham Coal, Iron & Railroad Company, capital \$7,500,000, owners and operators of three blast furnaces, the Sheffield, the Sheffield & Birmingham Railroad, coke ovens and coal mines near Sheffield. | 15 The Sheffield Agricultural Works, \$40,000. | 36 Sheffield Tapestry Works, \$40,000. |
| The Sheffield Furnace Company, capital \$150,000; assets \$500,000. | 16 The Sandstone Quarry Company. | 37 Robbins Machine Shop and Foundry, \$50,000. |
| The Lady Ensley Furnace Company, capital \$200,000. | 17 The Sheffield Cotton Compress Company, \$60,000. | 38 Sheffield Cotton Mill, No. 1, \$50,000. |
| 5 Enterprise Publishing Company, capital \$25,000; publishes daily paper with associated press report and weekly paper. | 18 Millar Brothers, Steam Laundry. | 39 Owen Pink Mixture Company, \$100,000. |
| 6 The Electric Light and Gas Fuel Works, \$25,000. | 19 Water Works, already expended \$30,000. | 40 Bell Telephone & Telegraph Company. |
| 7 The Sheffield Ice Company, capital \$25,000. | 20 Sheffield Street Railway Company, \$50,000. | 41 Fould's Shoe Factory, \$20,000. |
| 8 The Sheffield Manufacturing Company, \$30,000. | 21 Sheffield & Tusculum Street Railway Co., \$50,000. | 42 Enterprise Wood-working Company, \$30,000. |
| 9 The Sheffield Contracting Company, \$60,000. | 22 First National Bank, \$100,000. | 43 The Sheffield Harness & Saddlery Company, \$20,000. |
| 10 The Eureka Brick & Lumber Company, \$30,000. | 23 Cleveland Hotel Company, \$50,000. | 44 Principal Shops of the Sheffield & Birmingham R. R. |
| 11 The Sheffield Furniture Manufactory. | 24 Sheffield Hotel Company, \$120,000. | |
| 12 The Howard & Busch Brick Company. | 25 East Sheffield Land Company, \$500,000. | |
| 13 The Sheffield Bakery and Bottling Works. | 26 Hull & Keller's Fern Quarries. | |
| | 27 Vorhees' Galvanized Iron Cornice Factory. | |
| | 28 The Sheffield Quarries | |
| | 29 Mobile Real Estate Company, \$50,000. | |
| | 30 Sheffield Real Estate Company, \$125,000. | |
| | 31 Sheffield & Mobile Improvement Company, \$100,000. | |
| | 32 Sheffield Stove Works, \$50,000. | |
| | 33 Henderson Milling Company, \$100,000. | |
| | 34 Globe Iron & Brass Works, \$10,000. | |

Aside from the foregoing, the following are in course of construction and may be considered positive: Principal Shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad.

Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill, a Large Machine Shop, a Cotton Mill, a Large Steel Plant.

GOOD WATER.

Free Public Schools and Churches

Drainage Excellent. Health and Climate Unsurpassed.

Splendid Opening for Men of Push and Energy.

No Better Point for Profitable Investment.

— NO "OLD FOGY" ELEMENT HERE. —

Sites for Manufacturing Enterprises,

AND FOR FREE PUBLIC SCHOOLS AND CHURCHES,

Donated by Sheffield Land, Iron & Coal Company.

Population January 1st, 1887, 700; August 21st, 1887, by actual count, 2,583. Increase of population, 300 per cent. in eight months, and only limited by accommodations. Present estimate (August, 1888) fully 3,500. Four years ago the site of Sheffield was cultivated as corn and cotton plantations, and was without a railroad. Numerous two and three story brick business houses, and one and two-story dwellings have been, and are being erected. The class of buildings will compare favorably with those in cities of 20,000 inhabitants. Limestone of excellent quality for fluxing iron in unlimited quantities at the furnaces' sites. First-class building stone and brick clay abundant. Rich and extensive deposits of Brown Hematite iron ore within twenty miles, along the lines of two Sheffield railroads, which, by actual results in the furnaces, yield above 50 per cent. metal. Iron of high grade is being made with a pound of coke to a pound of metal—a result never before accomplished with Southern ores and coke. The Sheffield & Birmingham Railroad runs through the heart of the Warrior Coal Fields, which abound in first-class Coking, Steam, Gas and Grate Coal. Timber is abundant and cheap. The Memphis & Charleston Railroad, Sheffield & Birmingham Railroad, and Nashville, Florence and Sheffield branch of the Louisville and Nashville Railroad are now in operation into Sheffield. Surveys of three other railroads have been recently completed to Sheffield, which will soon be the best combined river and railroad transportation center in the South. Every merchant and every established manufacturing enterprise is doing a profitable business. More are needed. For further information address

WM. L. CHAMBERS, Vice-President and Manager,

SHEFFIELD LAND, IRON & COAL COMPANY, - - - SHEFFIELD, ALA.

SOME FACTS ABOUT FLORENCE, ALA.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

There are many other places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the ax has never touched.

Besides its industrial possibilities, Florence is a point of great commercial importance, and could be made the center of an enormous mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Certain railroad movements are in progress now that will give it direct communication in every direction and by different lines.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

Since the first of September, 1888, over 25 industries have been located at Florence, with an aggregate cash capital exceeding \$2,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: A furnace about ready to go into blast, and another partly constructed; a stove factory; a hardware company, with a capital of \$300,000 to manufacture fine building hardware, &c.; a wagon factory, with capital of \$150,000; an agricultural implement works; a handle factory; a woodenware factory; a sash, door and blind factory; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; three building and loan companies; a canning factory; several brick factories; a dummy railroad company, and several other enterprises.

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now more than 8,000.

There are more than 1,100 carpenters at work in Florence and they can't build houses fast enough to keep up with the increase in population. Before the first of January next there will be 15,000 people living here.

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to any of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Railroad and Improvement Co.

Lauderdale Manufacturing Co.

Cotton and Iron Co.

Florence Investment Co.

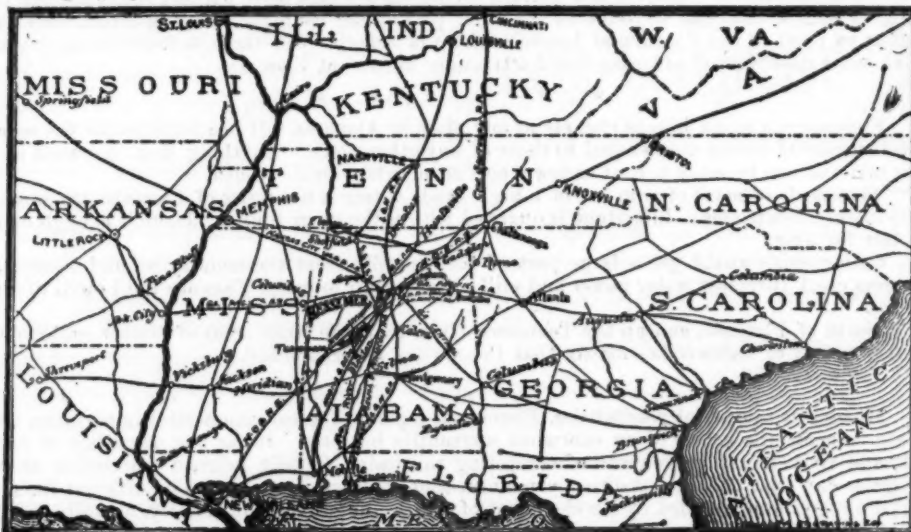
The Bessemer Land & Improvement Company,

Office-Nineteenth Street, next to the Bank of Bessemer.

ITS TRANSPORTATION ADVANTAGES.

In an area of four blocks nine lines of railways center: The Queen and Crescent Route; The Louisville & Nashville Min'l Line; The Bessemer & Huntsville R. R.; The Georgia Pacific R. R.; The Kansas City, Memphis & Bessemer R. R.; The Bessemer & Tuscaloosa R. R.; The Bessemer Dummy Line (standard gauge). All of these lines are running to Bessemer. The Bessemer & Huntsville is completed as far as Village Springs, forty miles on the way up Murphree's Valley, with its ultimate terminal point at Huntsville. It is being rapidly extended. The Bessemer & Tusca-

loosa is completed to Woodstock, a distance of thirty miles, lacking only eighteen miles of reaching Tuscaloosa. At Woodstock this line connects with the Blocton Coal Mines Railway. The lines of the Bessemer, Selma & Pensacola R. R. and Mobile & Bessemer R. R., now under contract and in process of construction, both center in this area. The Sheffield & Bessemer R. R. is projected to Bessemer. It is now built as far as Jasper, forty miles northwest of Bessemer.



Some Facts About Bessemer, Alabama.

Founded April 12, 1887.

In all the world there is no spot where the economic conditions of iron making are so perfectly and practically combined as at this city of Bessemer, Alabama.

Upon this fact was based the origin of Bessemer; upon this fact depends its present existence and all its future possibilities. Men may come and men may go, but the fact remains that North Alabama is the great storehouse of iron and coal in North America, and Bessemer is its natural center of production and practical, common-sense business men have shown their faith in it by the investment of millions of dollars and the creation of industries that give employment to thousands and furnish the means of comfort and happiness, of education and refinement to many homes.

Situated in the foot hills of the Apalachians in a beautiful valley, well watered and timbered, bordered on the northeast by the Button Mountains, locally known as the Red Mountains, and on the northwest by the Rock Mountains. It is but three miles as the bird flies across the valley from mountain to mountain. On the one side are the great Warrior coal fields, on the other an inexhaustible supply of iron ore, while in the valley between, the Trenton limestone crops vertically. Half way between the Ohio River and the Gulf of Mexico, remote from the rigors of the Northern winter, equally exempt from the heat of the low lands of the Gulf Shore, secure by its mountain elevation from the dreaded scourges of the tropics, with a pure, dry, bracing atmosphere, surrounded by an excellent grazing country where stock can be kept all winter without housing, where cotton and corn can be profitably raised, where the peach, the apple, the pear and the plum thrive, where grape culture on the sunny slopes of the hills is soon to become a special industry. The Northern visitor to this favored locality in February leaves behind the blizzard and dreary expanse of snow-covered country to find the fruit trees in bloom, the ground carpeted with green, the wild flowers in bloom and the birds singing merrily in the woods, while from the depths comes the never-ceasing, inexhaustible tribute of coal and iron to reward the industrious worker.

Scarcely two years have elapsed since a leading capitalist at Birmingham sold his furnace and mining interests and immediately projected a magnificent furnace plant on the site of what is now Bessemer, at the same time developing ore and coal mines. He

simply went to the source of supply, for it is well known that Bessemer supplies three-fourths of the iron ore to the Birmingham district and Chattanooga. The establishment of rolling mills and kindred industries immediately followed, and two years ago the city was projected.

The result is perhaps without parallel in history and without a personal visit and inspection will almost stagger belief. In two years there has grown up a bustling little city of nearly five thousand inhabitants and nearly seven hundred substantially built brick and frame houses. Nine lines of railway, four passenger depots, two hotels of architecture, design and finish that would be a credit to Chicago, blocks of brick and marble front stores that would not be out of place in New York; seven churches, a handsome public school building, the most extensive rolling mill in the country; five furnace plants, two in operation, the others under rapid construction, electric light, ice works, planing mills, fire-brick and terra cotta works, two foundries and three brick yards, water works with ample supply of mountain spring water for a large population.

It is no wonder that capital and immigration have been attracted to a scene of such unparalleled development and industry, and it is safe to say that nearly if not quite ten millions of dollars have already been invested at Bessemer.

The policy of the Bessemer Land & Improvement Company, which projected this city, has been to build the city gradually and substantially and upon a firm and enduring basis. With this policy steadily in view the company has never promoted nor has it participated in any speculative movements, but it has extended the broadest encouragement to immigrants and has made substantial inducements to the projectors of new enterprises.

The result is already apparent in new enterprises in operation which give employment to skilled workmen, and so lay the foundation of new homes. With the attention of the people in the Northern States of the Union directed to new fields of industry and the founding of new homes in which to work out prosperous careers, we extend an invitation to all to visit us and personally examine these advantages.



CHARLESTON BLOCK, 300 FEET FRONTAGE, 2D. AVE., BET. 18TH AND 19TH STREETS.

For particular information as to price of lots, manufacturing sites and inducements to establishing plants in this unrivalled locality, address

H. M. McNUTT, Secretary.

H. M. McNutt
President

200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889, article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the dullest of dull times?

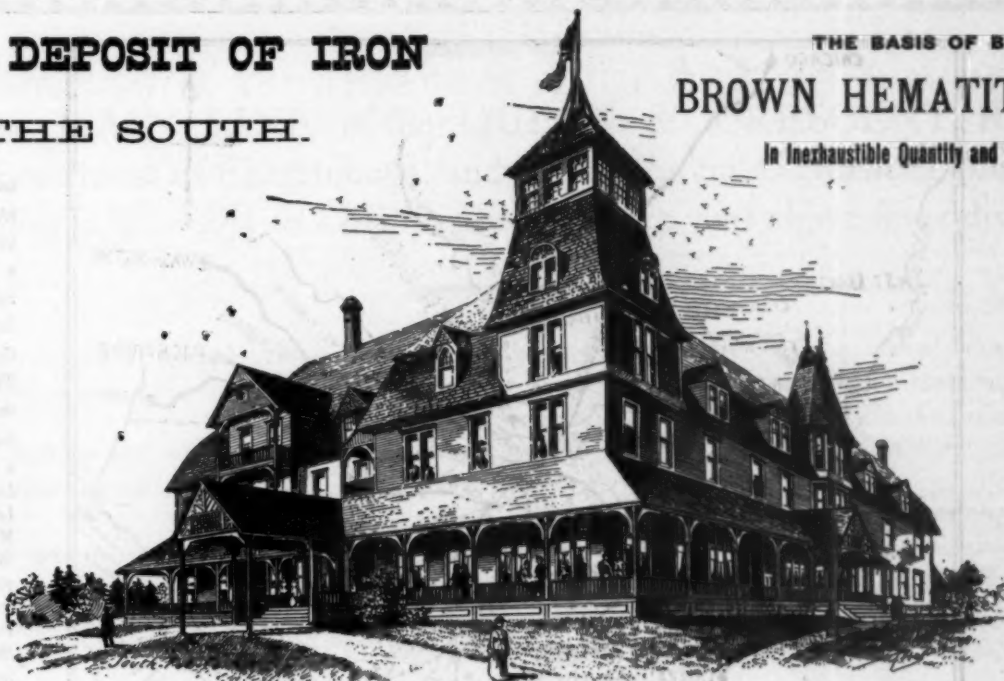
Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

The sample of brown iron ore, marked "Bluff Ore," contains—	The sample marked "Gravel Ore" contains—
Metallic iron, - - 52.37 per cent.	Metallic iron, - - 53.23 per cent.
Phosphorus, - - - 0.782 "	Phosphorus, - - - 0.931 "
Silica, - - - - 14.60 "	Silica, - - - - 6.25 "
Water combined, - 8.10 "	Water combined, - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

LARGEST DEPOSIT OF IRON

IN THE SOUTH.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE SIGNAL—NOW OPEN AT BLUFFTON.

THE BASIS OF BLUFFTON:

BROWN HEMATITE IRON ORE

In inexhaustible quantity and excellent quality.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three-fourths from the East & West Railroad, of Alabama.

A Dividend-Paying Stock Below Par. 8,000 Shares of Stock at \$14 Per Share—Par Value \$25.

PRICE OF STOCK:

The directors of the Bluffton Land, Ore & Furnace Co. have decided to offer to investors 8,000 shares (\$112,000) of its treasury stock for the purpose of building a 100 TON DAILY CAPACITY COKE IRON FURNACE at Bluffton, and for such other improvements and purchase of other unimproved real estate as may be considered by the directors for the best interests of the stockholders. This stock is now paying six per cent. from ore shipments, and for the past three weeks we have netted over \$20,000 from the sale of our city property—a sale which is larger by 20 per cent. than our estimate.

Only 8,000 shares will be sold at this price, \$14.00. As soon as this block is sold, which will probably be consummated inside of thirty days, the price will be advanced to \$20.00 per share. The balance left in the Treasury after this sale will probably not be offered less than par, if at all. Judging from present indications, it will not be necessary to sell more than the present block, as receipts from ore shipments and sales of real

estate will be ample to complete the furnace and make all improvements now contemplated.

Such a safe investment has never been offered—a dividend paying stock for less than par. Absolutely safe—cannot be assessed. Fully paid up in the organization. Work will be commenced on the furnace as soon as \$30,000 is subscribed on this sale. Persons desiring to purchase larger blocks than their present means will permit, can make a payment of one-half of the amount desired, the balance to be paid in thirty days. Blanks for subscription will be furnished from this office direct.

Orders will be filled in rotation for 1, 5, 10, 50, 100 or 1,000 shares till the entire block is sold. Positively only 8,000 shares will be sold at the above-named price. Subscriptions can be made direct to this office, or to any of the company's agents here or in New York, Chicago, Boston and Bangor, Maine. Remittances can be made by New York draft, express money order, or by currency by registered letter. We can furnish the highest testimonials in regard to this property from business men and experts who have visited it from all parts of the Union.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultured forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.

MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.

MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Woodworking Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.

It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham.

Elevation is from 895 to 1,600 ft. above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light.
Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

President, - - - -	COL. J. W. SPAULDING
First Vice-President, -	HON. D. H. GOODELL
Second Vice-President, -	HON. HENRY B. PEIRCE
Secretary, - - - -	C. L. T. STEDMAN
Treasurer, - - - -	F. H. TOBEY
Manager, - - - -	C. O. GODFREY

BOARD OF DIRECTORS.

HON. D. H. GOODELL, of Goodell Mfg. Co., Antrim, N. H.
HON. HENRY B. PEIRCE, Secretary of State of Mass.
GEN'L SELDEN CONNOR, Ex. Gov. of Maine, Pres. Northern Banking Co., Portland, Maine.
COL. J. W. SPAULDING, Ft. Payne, formerly of Portland, Me.
HON. F. G. JILLSON, Providence, R. I.
HORATIO ADAMS, Boston, Massachusetts.
W. J. CAMERON, Pres. First Nat'l Bank, Birmingham, Ala.
COL. JOHN B. BODDIE, Birmingham, Ala.
W. P. RICE, Pres. Union Investment Company of Kansas City, resides Fort Payne, Ala.

FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

Anniston

THE CENTER OF
Iron and Cotton Industry
AND MINERAL WEALTH.

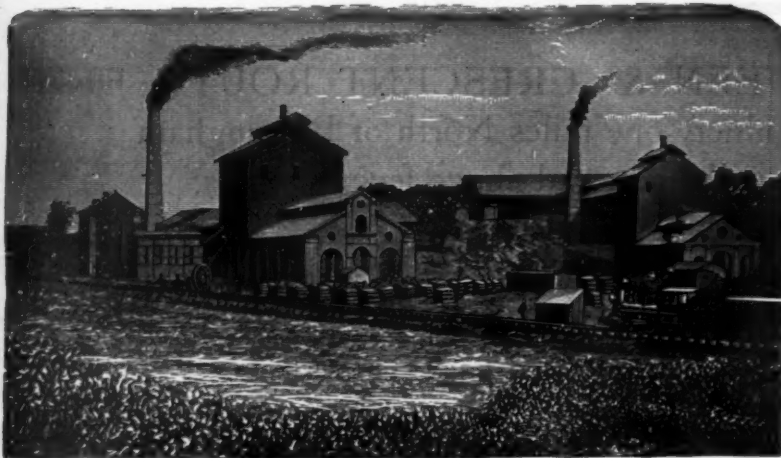
"The Model City of the South."

IT IS

The Profits of Labor only that can add to the wealth and prosperity of a nation or community. It is this only that can make business successful and profitable, sustain and add to the value of real estate.

WHERE

Nature's resources are greatest, where nature's capital in rich agricultural lands, and where iron, coal and other useful minerals are most abundant, most accessible and of superior quality for all purposes, there will capital find its safest investment, largest returns and labor reap its richest reward. It is to the Anniston District where the best professional mining engineers and experts of the United States declare the great center of the iron industry of the South will drift, where its manufacture will be most permanent and profitable, and where ores in the greatest abundance and accessibility exist, and where they will be most easily mined, that this applies.



WOODSTOCK FURNACES—ANNISTON.

The Development of the Past Fifteen Years

Confirms all this, and every year convinces the experts of the correctness of their judgment. It is no longer opinion based on scientific and practical education; it is a fact that is clearly and successfully demonstrated, so that the visitor to the Anniston District can see at every step. The four iron furnaces that have been so long and successfully operated, and the new plant now being erected, and rapidly approaching completion, which will be capable of producing one hundred thousand tons of pig iron a year, demonstrate that

NOWHERE ELSE IN THE SOUTH

Has the iron industry been so profitable and so successful, or been established on so permanent a basis, and of no district is this so universally conceded by all, while nowhere else have arrangements been perfected and already established on so complete a scale to work the crude iron into higher branches of manufacture to increase its value, and to bring into the district the profits of skilled labor. THE GREAT CAR WHEEL WORKS OF NOBLE BROS. & CO., their rolling mill and steam forge and machine shops, and the Alabama Car Works, have been absorbed by the

UNITED STATES ROLLING STOCK COMPANY,

With a capital of \$4,000,000, for the purpose of adding to and enlarging the entire plant to build TWENTY CARS A DAY. Everything that goes into the creation of a car, except the tin for the roof and the wire nails, will be created from Anniston's crude material by her labor and skill. Fifty tons of wheel iron will be made into car wheels daily, twenty tons into car axles, fifty tons of pig iron into car and other castings, and fifty tons into bar iron and bolts, making nearly ten thousand dollars per day added to the wealth of the country by profitable labor converting nature's capital to the use of man. This company have a capital of \$4,000,000, and their Anniston works will represent a cash outlay of \$1,000,000. One thousand skilled mechanics will be employed as soon as the great enlargements under way can be completed.

THE STEEL BLOOMARY

Consumes and increases the value of twenty tons of pig iron per day, while the Pipe Foundry converts to the use of man TWO HUNDRED TONS OF PIG IRON PER DAY in one of the largest and best planned and most convenient labor-saving works on this continent. The Foundry of Murray & Stevenson, Engine and Machine Works of Pinder & Co., and Boiler and Sheet Iron Works of J. & D. Noble, all add to the consumption of crude material by the creation of finished work.

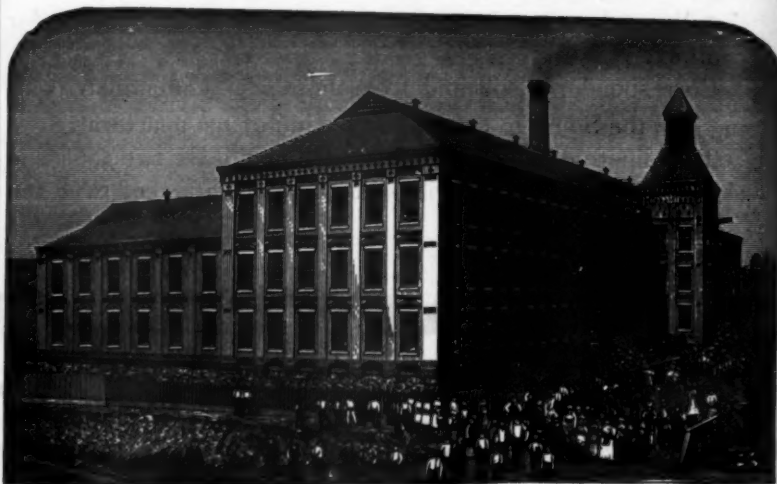
NOR IS IT TO IRON ALONE

That Anniston relies for increase of wealth and population. The Cotton Factory, with eleven thousand seven hundred spindles and three hundred and seventy-five looms, employing over three hundred and fifty operatives, adds greater value to the products of agriculture by converting six thousand bales of cotton into cotton cloth. The immense ninety-inch Morse Cotton Compress, with its brick warehouses, is fast making Anniston a cotton market and commercial center, and aiding its wholesale and retail merchants to extend and hold the trade of the country tributary to Anniston that its system of railroads has opened to them. The Georgia Pacific, the East Tennessee, Virginia & Georgia Railroad systems,

Give Direct Communication and Through Rates

To all parts of the country, while the Anniston & Atlantic Railroad, built by Anniston capital to open up new agricultural and mineral resources, gives Anniston, by connection with the Central of Georgia system, communication with the Atlantic sea coast and the new Anniston & Cincinnati Railroad, built and owned by Anniston citizens, opens up new resources and connections, and a shorter line with the great Northwest.

The proposed extension of the Anniston & Atlantic Railroad to Blocton will give another and shorter line to the great Cahaba Mines, producing the very best coal for domestic and manufacturing purposes in the South. Forty thousand acres of these coal lands, upon which a million and a half dollars have been lately spent in opening new mines and building several hundred coke ovens, ALL OWNED AND CONTROLLED BY ANNISTON CAPITAL, and developed to mine and manufacture three thousand tons of coal and coke per day, secures to Anniston for generations to come a full and certain supply of cheap fuel for all her industries, operated where a rich agricultural country can feed a manufacturing and commercial people, and where the



ALABAMA MANUFACTURING COMPANY'S COTTON MILL—ANNISTON.

Best, Healthiest and Most Invigorating Climate in the World,

With mountain air and pure water, and an elevation of nine hundred feet above tide water, insures the health and comfort of the workman and his family; where health and comfort stimulate and lighten labor, and secure to it and its industries the reward due to both. It is these advantages which have been given by nature that enabled Anniston's citizens to create her past and present prosperity, and which secure her future. It is that they may participate in and avail themselves of these advantages that Anniston invites NEW CAPITAL AND TALENT AND ENERGY from all sections. We invite all to come and see, and on the spot to judge for themselves of Anniston's great resources and possibilities. The comfort and quiet of the famous Anniston Inn will make a visit to our city a treat and pleasure. Any information, attention and courtesy will be given and shown by addressing or applying to the

ANNISTON CITY LAND CO., Anniston, Ala.

CONSTRUCTION DEPARTMENT

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

†In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Sewerage System.—The contract for building the main line of the sewerage system previously reported has been awarded to McDonald & Campbell at \$17,987 74, and the contract for furnishing the sewer pipe to the Globe Sewer Pipe Co., of Pittsburgh, Pa., at \$25,288 73.

Anniston—Car Works.—The Alabama Car & Foundry Co., reported last week, have organized with W. G. Ledbetter, president; Henry Horn, vice-president and general manager; H. D. Clark, secretary, and E. G. Robertson, treasurer. They will erect buildings at once. Capital stock is \$200,000.

Bessemer—Steel Plant.—The Henderson Steel & Manufacturing Co., of Birmingham, have adopted the Bogan & Wellman process for making steel at their plant, previously reported to be built. It will be located at Bessemer. They talk of building a plant at Birmingham also.

Birmingham—Switch Works.—The Hartwood Switch Co., previously mentioned as contemplating building switch works, will soon commence work.

Birmingham—Iron Furnace.—The name of the company previously reported as organized by George O. Vanderbilt, of Jersey City, N. J., to build a 100-ton iron furnace at East Birmingham is the East Birmingham Furnace Co. Work is to be commenced shortly.

Birmingham.—The Elyton Land Co., the North Birmingham Land Co., the Walker Land Co., the Gate City Land Co., the East Lake Land Co., the Smithfield Land Co., and the West End Land Co. have consolidated as the Birmingham Land Co. It is probable that several other companies will be included. The capital stock is to be not less than \$1,500,000 and not more than \$30,000,000. John W. Johnston is president, and H. M. Caldwell, vice-president.

Brierfield—Railroad.—Aldrich, Worthington & Co. have contract for grading and constructing the Brierfield, Blocton & Birmingham Railroad, lately reported, from Brierfield to Bessemer. The contract for the remainder of the line from Bessemer to Birmingham will be let shortly.

Columbia—Variety Works.—The Columbia Variety Works, lately reported as improving their works, will build a new brick shop, two stories, with foundry attached, and add wood-working machinery.

Chewacla—Corn Mill and Gin.—The Chewacla Lime Works are building a corn and feed mill and cotton gin.*

Columbiana—Railroad.—The Shelby-Alabama Central Railroad Co. has been incorporated by Newton Case, Daniel Phil-

lips and others, of Hartford, Conn.; J. A. Pickett, of New Britain, Conn.; H. R. Stoughton, of Shelby, and others to build a railroad from Columbiana to Sylacauga, 28 miles. The capital stock is \$100,000.

Decatur—Water Works.—The Decatur Water Co., reported last week as to probably extend works, will soon lay 10 miles more of pipe. They now have 30 miles. Additional machinery is now being put in to increase pumping capacity to 6,000,000 gallons daily.

Decatur—Plow Factory.—The Farmers' Alliance will, it is reported, establish a plow factory.

Decatur—Oil Lands, &c.—The Alabama Oil & Asphalt Co. will meet July 30 to negotiate for the purchase of additional oil and asphalt lands and devise some plan for immediate operation.

Enfield—Cotton Mill.—John T. Bellamy contemplates organizing a stock company to put his cotton mill in operation and add some new machinery. Capacity is 1,500 spindles.

Florence—Railing Works.—Robert S. Browning, of Philadelphia, Pa., will move his iron railing works to Florence at once.

Florence—Water Works.—The water works, contract for which was lately reported as let to the Jeter & Boardman Water & Gas Association, of Macon, Ga., will have a stand-pipe of brick or stone 100 feet high and two H. R. Worthington pumps of 3,000,000 gallons daily capacity. The cost will be \$250,000.

Florence.—It is reported that negotiations are pending for an immense real estate deal.

Florence—Dye Works and Bleachery.—The Alabama Land & Manufacturing Co. will erect an additional brick building at their Cypress Cotton Mills, two stories, 75x30 feet, to be used for dyeing and bleaching.

Florence—Bagging Factory.—The State Farmers' Alliance, J. J. Crittenun, local agent, have purchased the Coleman gin plant and will use same for the bagging factory lately mentioned as to be started.

Greenville—Street Railway.—J. F. Steiner and J. F. Stallings will probably extend their street railway, lately mentioned as being constructed.

Jacksonville—Iron Mines, &c.—Northern capitalists have chartered a company to mine iron ore, manufacture iron, etc. The capital stock is to be \$500,000.

Jemison—Cotton Mill.—W. E. Lowery is interested in the \$100,000 stock company reported last week as to be formed to build a cotton mill.*

Mobile—Car Shops.—The Mobile & Spring Hill Railway Co. are equipping their shops for the building of street railroad cars for their own use and for other parties.

Mobile—Cotton Mill.—The Cherokee Mills Co. contemplate adding 500 spindles to their cotton mill. It now has 888 spindles.

Mobile—Publishing.—The News Publishing Co. has been organized with W. W. Harris, president, and John J. Dunn, secretary, to publish an afternoon paper.

Oxford—Saw Mill.—The saw mill of R. F. McKibbin, reported last week as burned, will probably be rebuilt. Loss on machinery is \$2,500.

Shelby—Railroad.—The Shelby & Western Railroad Co. has been incorporated by Newton Case, W. W. Jacobs and others, of Hartford, Conn.; Homer R. Stoughton, of Shelby, and others to build a railroad from Shelby to Calera, 11 miles. The capital stock is \$100,000.

Talladega—Electric-light Plant.—The Talladega Gas Light & Water Co. contemplate erecting an electric-light plant.

Troy—Knitting Factory.—The Henderson Knitting Co., reported last week as organized with \$15,000 capital stock to start a knitting factory, will manufacture their own yarn. Factory will cost probably \$30,000.*

ARKANSAS.

Batesville—Lime Works.—The lime works at the Dennie mines will be enlarged.

Bear—Chair Factory.—A chair factory is to be started.

Beebe—Saw Mill.—Jolley & Filley have purchased machinery for a saw mill.

Brinkley—Gin.—A. Owens has erected a cotton gin.

Camden—Water Works.—The Camden Water Works Co., reported in last issue as to probably extend mains, will commence within 60 days laying 3 or 4 miles additional pipe and will erect a stand-pipe 15x75 feet; also add another pump of 1,000,000 gallons capacity daily.*

Center Point—Mill.—John A. Hughes is building a mill.

Clayton—Saw Mill.—A. C. Pickard will operate the saw mill of Mouser & Gallow.

Conway—Ice Factory.—J. M. Allinder contemplates erecting an ice factory.

Evening Shade—Mill.—Joseph Williams is adding new machinery to his mill.

Fordyce—Planing Mill.—Jones & Funkhouser have started a planing mill.

Fort Smith—Cotton Factory.—The Rome Cotton Factory, of Rome, Ga., are negotiating to remove to Fort Smith. If moved they will increase capacity to 5,000 spindles.

Fort Smith—Brick Works.—W. A. Doyle, mentioned in this issue as receiving paving contract, will erect a plant at once for the manufacture of vitrified brick.

Fort Smith—Paving.—W. A. Doyle, of Kalamazoo, Mich., has been awarded the contract to pave Garrison avenue, previously reported, with vitrified brick at \$65,000.

Fort Smith—Pottery.—A pottery will be established, it is reported. The secretary Chamber of Commerce can probably give particulars.

Fort Smith—Machine Shops and Roundhouse.—The St. Louis & San Francisco Railroad Co. (office, St. Louis, Mo.) will build the machine shops and roundhouse, reported last week, if citizens will pay \$13,000 due on a piece of land. Shops will cost \$50,000.

Helena—Railroad.—The Arkansas Midland Railroad Co. will put down new steel rails between Helena and Clarendon and use the old rails in building branch roads to Indian Bay and Old Town Ridge. They will not make the extension of their road to Little Rock, reported previously, until next year.

Judsonia—Saw Mill.—A new saw mill has been started.

Little Rock—Cornice Factory.—J. F. Rawlings, manufacturer of galvanized iron cornice work, has moved his factory to larger quarters.

Little Rock—Saw Mill.—C. C. Loomis has put a new 40 horse-power engine in his saw mill.

Little Rock—Printing Office.—The A. M. Woodruff Printing Co. have added machinery for lithograph work.

Little Rock—Gas Works.—The Pulaski Gas Co. are negotiating for the adoption of a new process for manufacturing gas from crude petroleum.

Little Rock—Brick and Tile Works.—C. W. Clark will add the manufacture of pressed brick and tiling to his brick works.

Mammoth Spring—Canning Factory.—A canning factory will probably be started.

Marion County—Zinc Mines.—Frank McGonigle and McCarthy & Kerrigan, of Little Rock, are developing zinc mines and contemplate building a railroad. They will put in heavy machinery soon.

Marion County—Zinc Mines.—The mines lately reported as to be developed by a company being formed by J. A. Hartman, of Memphis, Tenn., and others are zinc mines.

Marvel—Gin.—T. J. Lacado has erected a cotton gin.

Pine Bluff—Planing Mill.—D. B. Riggan, lately reported as moving his planing mill to another location, will add some new machinery.*

Pine Bluff—Dummy Line.—The Pine Bluff & Sulphur Springs Railroad & Land Co. is being organized to build a dummy line to Sulphur Springs, 6 miles. Capital stock is to be \$100,000.

Rogers—Tannery.—The United States Tanning & Manufacturing Co., lately reported as organized, has a capital stock of \$750,000, and not \$7,800 as stated.

Sulphur—Railroad.—The St. Louis, Iron Mountain & Southern Railroad Co. will build a branch road from their Batesville branch to Sulphur Rock, 2 miles, and have awarded contract.

Warren—Railroad.—The New York parties who have the contract to build the Louisiana, Arkansas & Missouri Railroad, have sublet contract for 81 miles to the Bambrick Construction Co., of St. Louis, Mo. Road is projected to extend from Brinkley, Ark., to Alexandria, La., 300 miles. Work has been started at Warren.

FLORIDA.

Euchee Anna—Saw Mill.—McKinnon Bros. are erecting a saw mill on Bruce creek near Euchee Anna.

Freeport—Saw Mill.—McCaikill & Monroe are erecting a saw mill.

Key West—Docks.—The Bow & Stern Dock Co., of New York, N. Y., have contracted to build for the United States Government a bow and stern dock.

Lake City—Shingle and Lath Mill.—N. S. Collins will put in a planer and shingle and lath machines.

Summerfield—Crate Factory.—J. B. Pomroy, of Three Oaks, Mich., contemplates establishing a crate factory at some point in Florida and is considering Summerfield.

GEORGIA.

Athens—Street Railway.—E. G. Harris, of Macon, has purchased the Classic City Street Railroad, lately reported as to be sold for \$6,700, and will improve it at a cost of \$30,000, changing to either a dummy or electric road. If electricity is adopted a plant for lighting the city in addition to furnishing power will be built.

Athens—Foundry and Machine Shop.—E. L. Lyndon is interested in the foundry and machine shop lately reported as to be built.

Atlanta—Electric Railroad.—Work has been commenced on the Fulton County Electric Street Railroad, previously reported. It is to be 8 miles long.

Atlanta—Rolling Mill.—Lewis Schofield is trying to organize a stock company to build the rolling mill previously reported. The estimated cost is \$75,000.

Atlanta—Fertiliser Factory.—The Kennesaw Guano Co. has been organized with a capital stock of \$100,000.

Atlanta.—Bills have been introduced in the legislature to incorporate the Southern Mutual Banking & Trust Co.; the Kansas City, Chattanooga & Port Royal Railroad Co., with J. W. Smith, J. T. Whitehead and others as corporators; the Rome, Subigna & Northern Railroad & Dummy Line Co.; the Georgia Security & Banking Co., with Joel Hurt, Samuel Barnett, H. H. Cabanis, of Atlanta, and Robert P. Wakeman, of Connecticut, as corporators; the Artesian City Railroad Co., and the Turtle River Railroad Co.

Augusta—Belt Railroad.—The corporators of the Richmond County Belt Line Railway Co., a bill for the incorporation of which was reported in last issue as introduced in the legislature at Atlanta, are Charles A. Robbe, Thomas Murray, E. J. O'Connor and others. The capital stock is \$50,000.

Augusta—Brewery, &c.—The Augusta Brewing Co., reported last week as enlarging their brewery, have put in new 80 horse-power boiler, contracted for another ice machine, and enlarged their bottling works.

Brunswick—Street Railway.—The Brunswick Street Railway Co. will probably extend their railway.

Cedartown—Canning Factory, &c.—Jos. A. Blance, J. K. Barton, W. S. Gibbons and others have incorporated the Josephine Fruit Farm to raise and can fruits and cultivate grapes and manufacture wine. The capital stock is \$10,000.

Cartersville—Brick and Tile Works.—Hiram Blaisdell, S. P. Jones, R. M. Pattillo and others have incorporated the Cartersville Brick, Tile & Stone Co. to manufacture brick, tiling and sewer pipe and quarry stone. The capital stock is \$20,000.

Cedartown—Foundry and Machine Shop. Jerry Phillips will erect a foundry and machine shop.

Columbus—Cotton Factory and Dummy Railroad.—A Northern syndicate are endeavoring to purchase the Clapp Cotton Factory, 4 miles from Columbus, and will, it is said, enlarge and improve it if they purchase, and build a dummy railroad from Columbus to the factory.

Cordele—Railroad.—The Savannah, Americus & Montgomery Railroad Co. (office, Americus) and the Georgia Southern & Florida Railroad Co. (office, Macon) will build a belt railroad around Cordele.

Dorminey's Mill—Rice Mill.—M. Dickens contemplates erecting a rice mill and thresher.

Emerson—Malleable Iron Works.—The Emerson Malleable Iron Co., previously reported, have organized with C. M. Jones, president; Theodore Lang, vice-president, and A. Longmore, secretary.

Foster's Mills—Cotton Factory.—John C. Foster & Co., previously mentioned as contemplating building a cotton factory, are making efforts to organize a \$100,000 stock company.

La Fayette—Iron Mines and Railroad.—It is reported that Marsh & Allgood will open iron mines about three miles from La Fayette and build a railroad to same.

La Fayette—Iron Mines.—A Northern syndicate has purchased the mineral interests in the lands of James Wallen, George W. Hunter and others from H. S. Chamberlain, of Chattanooga, Tenn., and will, it is said, open iron mines at once.

Macon—Ice Factory.—Parties are investigating with a view to establishing another ice factory.

Macon—Granite Quarries.—The Georgia Quincy Granite Co. has been incorporated by T. P. Artope, Archibald Wilson and others to develop quarries. The capital stock is \$50,000.

Macon—Cold Storage.—Armour & Co., of Chicago, Ill., will build a cold-storage warehouse at a cost of \$45,000.

Macon—Street Railroad.—A bill will be introduced in legislature at Atlanta to incorporate the Belt Line Street Railroad Co. The Central City Street Railroad Co. can give information.

Macon—A bill will be introduced in the legislature at Atlanta to incorporate the East Macon Land, Improvement & Manufacturing Co. Company will build dummy railroad. W. H. Jones & Son can give information.*

Ohopee—Railroad.—J. F. Millen has received contract to build the Savannah & Western Railroad from Ohopee to Stirling, 15 miles.

Rome—Laundry.—W. A. Jack has purchased the Crown Steam Laundry, and will put in new machinery and operate it.

Sandersville—Sash and Door Factory.—S. L. Parsons has started a sash, door and blind factory.

Savannah—Artesian Well.—The Savannah Hotel Co. are considering the sinking of an artesian well.

Savannah—Electric-light Plant.—The Mutual Electric Light Co. has been incorporated by Henry Blun, David Douglass, B. A. Denmark and others to erect an electric-light plant. The capital stock is \$50,000. Machinery has been ordered.

Savannah—Street Railway.—The capital stock of the Enterprise Street Railroad Co., lately mentioned as applying to State legislature for a charter, is to be \$100,000. E. F. Bryan is interested.

Savannah—Electric Plant.—The City & Suburban Railway Co. are considering the operation of their street railway by electricity.

Summit—Iron Mines, &c.—S. D. Winkles and Broadway & Co. will probably develop iron and manganese mines, &c.

Summit—Saw Mill.—William Gossett and Virgil Wilkins are erecting a saw mill.

Valdosta—Saw Mill.—J. C. Wisenbaker will rebuild his saw mill reported in this issue as wrecked by a boiler explosion.

Villa Rica—Lumber Mill.—The Villa Rica Lumber Co., reported last week as to put additional machinery in mill, will probably also erect new dry-kiln and put in new 60 horse-power engine.*

Washington—Telephone Line.—The Lincoln and Washington Telephone Co. have organized with P. J. Holiday, president, and C. M. May, secretary, to build a telephone line.

Washington—Street Railroad.—The name of the company lately reported as chartered to build a street railroad is the Washington Street Railway Co. They will soon start work.*

KENTUCKY.

Bowling Green—Water Works.—The Louisville & Nashville Railroad Co. (office, Louisville) will build a reservoir and erect a pump at a cost of about \$10,000.

Brandenburg—Soda Works.—Works are to be built for the manufacture of soda from salt under the patents of Dr. J. P. Barnum, of Louisville. Work will be started soon.

Covington—Electric Railway.—The South Covington & Cincinnati Street Railway Co. are investigating the cost of operating their street railway by electricity.

Covington—Wheel Factory.—The Howell Wheel Co., manufacturers of iron wheels, have organized as a stock company with a capital of \$50,000. They are building an addition to their factory which will greatly increase capacity.

Ford—Lumber Mills, &c.—The Moore-Whipple Co., of Detroit, Mich., have purchased the lumber mills, booms and other property of Asher Bros.

Lair—Lead Mines.—Dr. T. D. Smith, of Cynthiana, has organized a company with a capital stock of \$8,000 to develop lead mines on the farm of Thomas Hinkston.

Lexington—Hemp Factory.—A. E. Hartshorn, of Troy, N. Y., offers to move his hemp factory to Lexington if the citizens

will subscribe \$35,000 towards organizing a stock company to operate the factory.

Lexington—Belt Railroad.—The Belt Railroad Co., previously reported as organized with \$200,000 capital stock and building road, have issued a mortgage for \$150,000.

Louisville.—Theodore Harris, B. du Pont, Bannen Coleman and T. C. du Pont have incorporated the Central City Improvement Co. to deal in real estate. The capital stock is to be not less than \$6,000.

Louisville—Veneer Factory, &c.—The property of the Astoria Veneer Mill & Lumber Co. has been sold to Joseph Frantz.

Louisville—Stone Quarry and Saw Mill. The Industrial Home & Land Association, M. F. A. Eusten, president, are laying out a town on the Louisville Southern Railroad, 13 miles from Louisville, as stated previously, and have opened a stone quarry and erected a saw mill.

Louisville—Trunk Factory.—John L. Chilton, D. A. Guthrie and J. G. Guthrie have incorporated the Chilton-Guthrie Trunk Co. to manufacture trunks, satchels, etc. The capital stock is \$60,000. Will succeed Chilton, Guthrie & Co.

Mayfield—Publishing.—Arch Pool, W. M. Smith and others will publish the Herald.

Middlesborough—Bed Factory.—W. C. Bailey, of Chattanooga, Tenn., is prospecting with a view to starting a folding spring-bed factory.

Owensboro—Coal Mines.—R. S. Triplett will develop coal lands near Reynold.

Phalen—Flour Mill.—Philip Huber has purchased, it is stated, the flour mill of Stone, Huber & Co., and will operate same.

Richmond—Flour Mill.—Myers & Carse have improved their flour mill.

Tompkinsville—Flour Mill, &c.—John Pritchard will start a roller flour and grist mill.

Winchester—Railroad.—Clark county has voted to subscribe \$100,000 to the Louisville, Cincinnati & Virginia Railroad.

LOUISIANA.

Alexandria—Sugar Factory and Refinery. W. F. Blackman, Sidney Tanner, Hon. A. F. Meeker and others are organizing a stock company to erect a central sugar factory and refinery.

Baton Rouge—Saw Mill.—The Burton Lumber Co. will change their mill to a band saw mill during August.

Donaldsonville—Electric-light Plant and Water Works.—It is reported that the council will contract with Mr. Ferguson, of New Orleans, for the erection of an electric-light plant and water works.

Logansport—Saw Mill.—Prevo & Harlan have built a saw mill of 40 M feet daily capacity.

New Orleans—Sugar Refinery.—The New Orleans & Gulf Railroad Co. will, it is stated, erect a central sugar refinery at some point on their road.

New Orleans—Machine and Boiler Works. Taylor Bros. will probably soon enlarge their machine and boiler works.

White Castle—Railroad.—The White Castle Lumber & Shingle Co. are building a railroad at their saw and shingle mill lately reported as being built.

MARYLAND.

Baltimore—Machine Works.—The Pillings Manufacturing Co. has been chartered by G. T. Pillings, J. H. Phillips, Daniel Hockaday and others to manufacture engines, boilers and other machinery. The capital stock is \$100,000.

Baltimore—Bridge.—The Baltimore & Harford Turnpike Co. (office, 312 St. Paul street) will rebuild their bridge across Herring run, destroyed by the late flood, and invite until August 1 bids for a single span iron bridge 33½x18 feet.

Baltimore—Boot and Shoe Factory.—The manufacture of heavy boots and shoes will be started at the Maryland penitentiary on Madison street.

Baltimore—Packing-house.—A. W. Kriet will put a 60 horse-power boiler in his packing-house on Cross street.

Baltimore—Marine Railway, &c.—W. H. H. Bixler has purchased from the estate of J. T. Fardy the marine railways, machinery and wharves on Hughes street for \$60,000.

Cumberland—Shoe Factory.—The Soldiers' Shoe Manufacturing Co., of Philadelphia, Pa., are negotiating to build a large shoe factory. A \$100,000 stock company will be formed.

Dorsey—Shoe Factory.—A syndicate has purchased the estate of Mrs. Dorsey, containing 538 acres of land, and will lay out in building lots. A large shoe factory and 52 dwellings will be built, it is reported.

Frederick—Lime Works.—The M. J. Grove Lime Co. has been incorporated by M. J. Bernard, L. E. D. and James H. Grove, to manufacture lime, &c. The capital stock is \$100,000.

Frederick—Bridge.—The contract to build two 150 feet iron spans over the Monocacy river at Furnace Ford has been let to H. G. Welty.

Havre-de-Grace—Shoe Factory.—J. Faust & Sons, of Baltimore, are selecting a site for their \$125,000 shoe factory mentioned in last issue, and want bids for materials, &c.*

Laurel—Bridge.—Thomas H. Disney has let contract for building the wrought iron Pratt truss bridge over the Patuxent river, previously reported, to the Washington Architectural Iron & Bridge Co., of Washington, D. C., at \$4,971.70.

Perryman—Canning Factory.—George A. Baker has purchased and is enlarging the canning factory of James T. Walker.

Rowlandville—Rolling Mill.—It is rumored that the McCullough Iron Co. will soon put their rolling mill in operation.

Steeleton—Saw Mill.—James Strong and others, lately reported as to build a saw mill to saw logs that escaped from the Williamsport, Pa., boom, will locate it at Steleton. Name of company is Williamsport & Chesapeake Co.

Vale—Saw Mill and Fertilizer Factory.—The address of William H. Waters, reported last week as building a saw mill and contemplating starting a fertilizer factory, is Vale.

Washington, D. C.—Bridge.—The District Commissioners will receive proposals until August 3 for furnishing and placing in position riprap stone about the southernmost pier of the aqueduct bridge across Potomac river.

Washington, D. C.—Electric-light Plant. G. B. White, chief of bureau of yards and docks, Navy Department, will receive proposals until August 6 for installing the electric-light plant in the Washington navy-yard, previously mentioned.

Washington, D. C.—Bridge.—Lieutenant-colonel Peter C. Haines recommends in his annual report the reconstruction of the Long bridge at a cost of \$600,000.

MISSISSIPPI.

Aberdeen—Gin Factory.—A company has been organized to manufacture cotton gins with Van H. Manning as president.

Bogue Chitto—Planing Mill.—C. D. Woodbury has put in planing-mill machinery.

Bogue Chitto—Electric-light Plant.—The Keystone Lumber & Improvement Co. will erect an electric-light plant at their lumber mills.*

Jackson—Publishing.—T. S. Wilson will publish the Commonwealth.

Meridian—Fertilizer Factory.—The Meridian Fertilizer Co. have increased their capital stock from \$53,000 to \$71,000 and will enlarge their buildings.

Richburg—Dry-kiln.—C. W. Rich, previously reported as enlarging planing mill, is erecting another dry-kiln.

NORTH CAROLINA.

Bost's Mills—Wagon Factory.—The building of a wagon and agricultural implement factory to cost \$25,000 is talked of.

Central Falls—Cotton Factory.—The Worth Manufacturing Co. have added 1,300 spindles and 50 looms to one of their cotton mills and contemplate further improvements.

Charlotte—Broom Factory.—J. A. Samuels, of Augusta, Ga., intends moving his broom factory to Charlotte.

Concord—Electrical Railroad.—Negotiations are being made for the construction of an electrical railroad to Mt. Pleasant. John P. Allison can give information when anything is done.

Cronly—Fertilizer Factory.—The Acme Manufacturing Co. are enlarging their fertilizer factory.

Darham—Wagon Factory.—Efforts are being made to organize a stock company to start a wagon factory.

Elizabeth City—Box Factory.—Blade Bros. & Morris are erecting a box factory at their lumber mill.

Lincolnton—Saw Mill.—W. L. Breath has leased and will operate the Kistler saw mill.

Raleigh—Sewerage System.—Quinn & Smith, of Nashville, Tenn., have received contract for opening and closing trenches and laying pipe for the sewerage system previously reported at \$32,126.23.

Salem—Paper Mill.—John A. Askew and Charles T. Askew have purchased and will operate the paper mill owned by W. S. Floyd.

Salisbury—Water Works.—A filter will be put in at the Salisbury water works.

Salisbury—Railroad.—The Cape Fear & Yadkin Valley Railroad Co. (office, Fayetteville) contemplate building a railroad from Salisbury to Norwood. Stanley county will probably subscribe \$100,000.

Thomasville—Foundry.—R. G. Chaney will erect an iron foundry. He has purchased boilers.

Wilmington—Bageing Factory.—A cotton bagging factory will probably be established. The secretary Chamber of Industry can give particulars when anything is done.

Wilmington.—The Wilmington Compress & Warehouse Co., lately reported as erecting an additional cotton compress, have purchased land with a water front of about 1,600 feet and will make improvements.

Wilmington—Creosote Works.—The Carolina Oil & Creosoting Co. are putting in the additional retorts previously mentioned.

Yatesville—Saw Mill.—The Beaufort County Lumber Co. will rebuild their saw mill reported last week as damaged by a boiler explosion. Will put in two new boilers.

SOUTH CAROLINA.

Anderson—Cotton Mill.—M. Kennedy and others are reported as to build the cotton mill lately mentioned. Will want machinery.

Barnwell C. H.—Canning and Can Factory.—J. Allen Tobin and others, lately mentioned as contemplating starting a canning factory, will put in machinery also for manufacturing their cans.

Barnwell C. H.—Oil Mill.—A company is being organized to build a 20-ton cottonseed oil mill.

Beckham—Saw Mill.—Mr. Rey, of Chester, contemplates building a saw mill.

Blacksburg—Wood-working Factory.—H. G. Hall, of Shelby, N. C.; J. F. Jones, of Blacksburg, and others have organized the J. G. Hall Manufacturing Co., capital stock \$5,000. They will start a saw and planing mill and wood-working factory.*

Black's Station—Cotton Mill.—The Cherokee Falls Manufacturing Co. will enlarge their cotton mill, adding 896 twister spindles, &c. Machinery is ordered.

Charleston—Soda Water Factory, &c.—F. W. Jessen, lately reported as enlarging bottling works, will shortly add a soda water factory and gas engine and steam machines for export beer.

Charleston—Soap Factory.—A party is endeavoring to organize a stock company to establish a soap factory.

Columbia—Fertilizer Factory.—The Columbia Phosphate Co. has been organized by W. A. Clark, Dr. T. C. Robertson, A. P. Butler and others to manufacture fertilizers. They will manufacture their sulphuric acid also. Work will be started at once. Capital stock is \$50,000.

Columbia—Bridge.—The Columbia, Newberry & Laurens Railroad Co. will build an iron bridge over the Broad river on the present piers.

Columbia—Oil Refinery.—R. E. Hill, of Abbeville, is endeavoring to organize a stock company to build a \$100,000 cottonseed oil refinery.

Hampton, C. H.—Oil Mill and Fertilizer Factory.—There are prospects of an oil mill and fertilizer factory being built. M. B. McSweeney can probably give information.

Hampton C. H.—Cotton Factory.—A cotton factory is to be built soon. M. B. McSweeney is interested.

Lancaster—Cotton Mill.—The erection of a cotton mill is being discussed. If anything is done L. C. Payseur can give information.

Lancaster County—Gold Mine.—New mining machinery is being placed in the Haile gold mines.

Marion County—Saw Mill.—The Enterprise Joint Stock Co. has been chartered and will operate a saw mill, &c.

Marion—Grist and Saw Mills.—A. H. Harrelson will put in a turbine water wheel to operate his grist mill and gin. He will also add a saw mill.

Ridgeville—Shingle Mill.—C. H. Moffett will start a shingle mill.*

Rock Hill—Cotton Mill.—The Patterson Mills Co., of Chester, Pa., previously mentioned as contemplating moving their cotton mill to some point in the South, will locate it at Rock Hill. Capacity will be 15,000 spindles.

TENNESSEE.

Bristol—Saw and Shingle Mill.—Pipkin & Sparkins have erected a saw mill and shingle mill.

Campbellsville—Saw and Corn Mill, &c.—A saw, planing and corn mill is being built.

Chattanooga—Electrical Railroad.—The Chattanooga Electrical Street Railroad Co. will extend their road 10 miles during next year.

Chattanooga—Coal Lands.—O. J. Sheridan and others have purchased 21,000 acres of coal lands near Walden's ridge for \$30,000.

Chattanooga—Stone Quarry.—Judge Hodder will open sandstone quarries at Walden's ridge.

Chattanooga—Railroad.—C. E. James has contracted to build 3 miles of the Chattanooga Southern Railroad, previously reported, and may contract to build the remainder.

Chattanooga—Boiler Works.—W. T. Adams, of Corinth, Miss., contemplates establishing boiler works.

Chattanooga—Machine Works.—A company manufacturing wood-working machinery will, it is reported, move their works to Chattanooga.

Chattanooga—Machine Shop.—The Chattanooga Foundry & Pipe Works, previously mentioned as to enlarge their works, will build also a new machine shop 72x128 feet,

two stories, and have awarded contract to John Trout & Co.

Chattanooga—Flour Mill and Grain Elevator.—The Sweetwater Milling Co., of Sweetwater, will erect a roller flour mill with daily capacity of 500 barrels. The building will be of brick, five stories, 50x100 feet. They will also erect a grain elevator of 100,000 bushels capacity.

Columbia—Bridge.—James Andrews will receive plans and specifications for building an iron bridge across Duck river to cost not more than \$31,000.

Cumberland Gap—Railroad.—The Cumberland & Big Gaps Railroad Co. have let contract for 8 miles more of their road, mentioned in last issue, to Winston Bros. & Co., of Minneapolis, Minn., and 5 miles to Walton & Co., of Roanoke, Va.

Daylight—Mining.—E. C. Preston and Mr. Standrich have leased mineral lands for parties who will, it is said, develop.

Dayton—Furniture Factory.—Hodge & McKeen are moving their machinery to new quarters and will manufacture furniture, brackets, &c.

Goldust—Saw Mill.—The saw mill lately reported as to be built by W. E. & W. Lambeth will be a circular saw mill.*

Knoxville—Electric-light Plant.—The Schuyler Electric Light Co., mentioned in last issue as to build a new and larger plant, have let contract for the erection of a building 45x80 feet to McLemore & Kelley.

Knoxville—Planing Mill.—The Knoxville Furniture Co. are enlarging their planing mill.

Lebanon—Flour Mill.—The Farmers' Milling Co., reported last week as chartered, will build the flour mill lately reported as to be built by S. R. Hawks.

Livingston—Railroad.—The Kentucky Central Railroad Co. (office, Covington, Ky.) contemplate, it is said, extending their road from Livingston to Jellico.

McMinnville—Soap Factory.—The company lately reported as organized by R. F. Taylor to start a soap factory will soon commence work.

Memphis—Shoe Factory.—The Wall-Mount Shoe Co., reported last week as chartered, will manufacture shoes by hand.

Memphis—Railroad.—A construction company has been organized to build the projected Memphis, Arkansas & Texas Railroad, previously reported. N. M. Jones can give information.

Memphis.—The Memphis Building & Construction Co. has been chartered.

Memphis.—The Diamond Color & Oil Co. has been incorporated.

Memphis—Stave Factory.—The Delta Stave Co. are building another stave factory of same capacity as their present factory, and are adding one room to their dry-kiln.

Nashville—Lumber Mill.—Lieberman, Loveman & O'Brien have put new band saw in their lumber mill.

New Middleton—Flour Mill.—The New Middleton Mill Co. have improved their flour mill, putting in roller machinery.

Rogersville—Railroad.—The Tennessee & Ohio Railroad has been purchased from E. J. Sanford by the East Tennessee, Virginia & Georgia Railway Co. (office, Knoxville), who will extend it to Big Stone Gap, Va., 45 miles, as previously reported.

South Pittsburg—Coal Mines.—W. F. Kilpatrick, representing a Northern syndicate, has purchased mineral lands in Sequachee valley and will open up coal mines.

Somerville—Laundry.—The Somerville Steam Laundry Co. has been organized to start a steam laundry.

TEXAS.

Atlanta—Machine Shop.—I. L. Gamewell will rebuild his machine shop reported last week as burned. He will repair the old machinery and add some new.*

Bailey—Grist Mill, &c.—The White Rock & Grove Hill Alliance Ginning & Milling Co. has been incorporated to operate a grist mill and gin.

Beeville—Grist Mill and Gin.—Parties have bought the Beeville grist mill and gin and are putting in additional machinery.

Belton—Broom Factory.—J. Z. Miller and Samuel Walton will start a broom factory.

Brownsville—Electric-light Plant.—H. F. Gray, of Galveston, is organizing a stock company to erect an electric-light plant to cost about \$15,000.

Childress—Flour Mill.—The flour mill referred to last week will probably not be built at present.

Dallas—Flour Mill.—S. H. Cockrell & Co., lately mentioned as purchasing the Todd Flour Mills, have incorporated the Todd Milling Co. with a capital stock of \$100,000 to operate same.

Duffau—Grist Mill and Gin.—J. W. Dodgen, of Wichita Falls, has purchased the Duffau grist mill and cotton gin and will operate them.

Floresville—Water Works.—The Floresville Water Works Co. has been organized with J. C. Kroger, president, and W. O. Murray, secretary. They will receive bids for boring one or more artesian wells.

Fort Worth—Tank and Cistern Factory.—The F. F. Collins Manufacturing Co., of San Antonio, have purchased the Flint & Walling Manufacturing Co.'s business and will erect suitable buildings and put in machinery for the manufacture of tanks, cisterns, troughs, &c.

Fort Worth.—The Fort Worth Land & Investment Co. have increased their capital stock from \$100,000 to \$200,000.

Fort Worth—Woolen Mill.—Robert McCarty, William Barr and others have organized a \$100,000 stock company to build a woolen mill.

Forth Worth—Electric-light Plant.—The city will probably put in an electric-light plant. The mayor can give information.

Forth Worth—Furniture Factory.—K. S. Blanth, of New York, N. Y., is prospecting with a view to establishing a furniture factory.

Galveston—Canning Factory, &c.—Julius Runge has organized the Galveston Packing Co., capital stock \$200,000, to cultivate and can oysters, pack fish, &c. They have 6,000 acres surveyed to plant oysters.

Galveston—Wool-scouring Mill.—A. S. Exline and E. W. Gruendler have purchased the wool-scouring mill of Mr. Howard and will enlarge and operate it.

Galveston—Can Factory.—F. E. Haun is the party previously reported as starting a can factory. Capacity at present is 50 M square cans per month.

Georgetown—Water Works.—The water works company, W. J. Thomas, president, will lay 3 miles of 1½-inch and 1¼ miles of 1¼-inch pipe, and probably 1,000 feet of larger pipe.

Jefferson—Saw Mill.—W. W. Wallace, of Michigan, has been prospecting with a view to erecting a saw mill.

Laredo—Coal Mines.—The Laredo Coal Co., lately reported as incorporated and to open new coal mines, have contracted for machinery for the development of their mines.

Laredo—Soap Factory.—Dr. Atlee and Prof. Deryea have organized a \$25,000 stock company to manufacture soap.

Laredo—Woolen Mill.—The board of trade are negotiating with an English syndicate for the erection of a large woolen mill.

Laredo—Railroad.—The International & Great Northern Railroad Co. (office, Palestine) will enlarge their terminal facilities.

Lodi—Saw Mill.—Dunn & Wartshaugh, of Kildare, will build the saw mill reported last week.

Mexia—Canning Factory.—The Mexia Evaporating & Canning Co. are enlarging their canning factory.

New Birmingham—Stove Works.—Parties have contracted to locate large stove works and will soon start work. The New Birmingham Iron & Land Co can give information.

New Birmingham—Iron Furnace.—The New Birmingham Iron & Land Co. have awarded contract for furnace shell, boilers, roof for cast house, &c., for their charcoal iron furnace, previously reported, to the Shickle, Harrison & Howard Iron Co., of St. Louis, Mo.

New Birmingham—Iron Furnace.—The Phoenix Furnace & Land Co., lately reported, are reported as making arrangements for the erection of an iron furnace.

New Birmingham—Furnace.—Galveston parties will, it is stated, build an iron furnace and are forming a company. The New Birmingham Iron & Land Co. can give information.

Palo Pinto.—The Palo Pinto Medicine Co. has been incorporated with A. F. Starr, president; E. C. Baker, vice-president, and O. M. Wetherhouse, secretary. The capital stock is \$50,000.

Rusk—Fruit Evaporator.—A fruit evaporator is being erected at the State penitentiary.

San Angelo—Bridges.—The commissioners' court of Bell county have contracted with J. D. O'Daniel, representing the Milwaukee Bridge & Iron Works, of Milwaukee, Wis., for the construction of the nine iron bridges, previously reported, at \$65,000.

San Angelo—Water Works.—J. L. Millsbaugh contemplates enlarging his water works.

San Marcos—Lime Works.—John Bates will manufacture lime.

Taylor—Artesian Well.—The Artesian Well Co. has been organized with a capital stock of \$5,000. Will drill for water at once.

Thurber—Woolen Mill.—It is rumored that Lowell, Mass., parties will erect large woolen mills. Marcus A. Wilson can probably give information if anything is done.

Thurber—Coal Mines.—R. D. Hunter, Thomas Dawson and others, of St. Louis, are developing coal lands.

Thurber—Cotton Factory.—The establishment of a cotton factory is talked of. Marcus A. Wilson can probably give information if anything is done.

Tyler—Lumber Mill.—The Warren Lumber Co. have increased their capital stock \$30,000.

Weatherford—Soap Factory.—The Weatherford Soap Factory has been organized for the manufacture of soap with N. G. Edwards, president, and A. S. Lewis, secretary. The capital stock is \$10,000.

Wharton—Bridge.—Proposals for building an iron bridge over the West Bernard creek in Wharton county will be received until August 12 by W. J. Croom.

VIRGINIA.

Alexandria—Publishing.—D. W. Whiting has commenced the publication of the News.

Alexandria—Gold Mining, &c.—The Iron & Gold Mining Co. has been incorporated with J. H. Hopkins, president, and E. Morris, secretary, to mine, mill and smelt gold and other minerals. The capital stock is to be not less than \$100,000 nor more than \$500,000.

Bermuda Hundred—Railroad.—The Bright Hope Railroad, extending from Bermuda Hundred to Eppes Falls, 32 1/4 miles, has been purchased by the Farmville &

Powhatan Railroad Co. (office, Farmville) for \$200,000.

Big Island—Pulp and Paper Mill.—The Alleghany Pulp and Paper Co., lately mentioned as increasing capital stock to \$100,000, to double the capacity of their pulp mill and add a paper mill, have changed their name to the Lynchburg Pulp & Paper Mill. P. A. Krise, of Lynchburg, is president.

Big Spring Depot—Zinc Mine.—A large deposit of zinc is reported to have been discovered, and will probably be developed.

Buena Vista—Paper Mill.—The Buena Vista Pulp & Paper Co. is the name of the company lately reported as being organized to establish a paper mill. The capital stock is to be \$30,000. The mill will be added to the pulp mill of Clemmit & Sadler, now in operation.

Buena Vista—Iron Furnace.—A site has been selected for the 100-ton (coke) iron furnace, previously reported. The Buena Vista Co. can give information.

Danville—Silk Factory.—William H. Johns, of New York, N. Y., will probably establish a silk factory.

Goshen Bridge—Iron Furnace.—Chamberlain, Wheeler & Co. have blown in their Victoria furnace, after making the repairs previously mentioned. Capacity will probably be 150 to 200 tons daily.

Hillsville—Copper Works.—The Ore Knob Copper Mines Co. are moving their machinery from North Carolina to Carroll county, and will operate the old copper plant near Hillsville.

Houston Mines—Natural Gas.—John F. Roberts has, it is reported, discovered natural gas.

Iron Gate—Iron Foundry.—It is stated that W. H. Peters will remove his iron foundry from Ironton, O., to Iron Gate.

Iron Gate—Rolling Mill.—The Iron Gate Rolling Mill Co., mentioned in last issue as moving a rolling mill to Iron Gate, (from Moundsville, W. Va.) will improve same and put in additional boiler power.

Leesburg—Bridges.—G. F. Eamich will receive proposals until August 1 for rebuilding the masonry of several bridges.

Lynchburg—Iron Furnace.—The Virginia Nail & Iron Works contemplate increasing their capital stock 30 per cent, and thoroughly repairing their blast furnace.

Manchester—Street Railway and Bridge.—The Southside Land & Improvement Co., lately reported as incorporated to build a street railroad, have applied for permit to build same. They will construct an iron bridge across the Richmond & Petersburg railroad to cost about \$6,000.

Mt. Athos—Manganese Mine.—The Lerner Manganese Co. will enlarge operations at their manganese mines, putting in new machinery.*

Newport News—Iron Works.—Simpkin & Hillyer will enlarge their Warwick Iron Works.

Newbern—Railroad.—James B. Jordan wants to contract for the construction of 7 miles of standard gauge railroad in Tennessee.

Petersburg—Fertilizer Works.—Davie & Whittle will make some improvements to their fertilizer works.

Pulaski City—Zinc Mines.—The Bertha Zinc Co. are preparing to enlarge and improve their mining facilities.

Pulaski City—Chemical Works.—The syndicate lately mentioned as organizing the New York & Virginia Mineral Co. will, it is reported, build chemical works. Geo. W. Palmer, of Saltville, can give particulars.

Radford—Planing Mill, &c.—Sturdevant & French have secured a site for their new and larger planing mill and sash, door and blind factory previously reported as to be erected.

Radford—Water Works.—The Radford Land Co. will build the water works previously reported. Howard Murphy has prepared plans and will superintend the construction.

Richmond—Factory.—A. R. Ellerson & Co. will erect machinery for reducing tobacco stems to a powder.*

Saltville—Salt Works.—The North American Salt Co., just organized in New York, probably hold the option on the salt works of Palmer, Carpenter & Co., mentioned last week. It will expire in October.

Sands—Manganese Mine.—General W. S. Rosecrans, of Washington, D. C., has purchased 547 acres of land near Sands from Isaac Long. The land contains manganese ore, and it is stated work of developing the property will begin at once.

Shadwell—Flour Mill.—J. Massie Smith contemplates building a flour mill.

Swords' Creek—Saw and Planing Mill.—J. F. Prettyman is building a 50 horsepower saw and planing mill. He has purchased all machinery except a planer.

Wallace—Saw Mill.—R. Stone & Son have started a saw mill.

Warsaw—Grist and Planing Mill.—J. W. Carter, lately reported as purchasing a grist mill and planing mill, will put in a turbine water wheel 3 1/2 to 4 feet in diameter, &c.*

WEST VIRGINIA.

Charleston—Reservoir.—The Charleston Water Works Co. have bought a site for the reservoir mentioned last week, but will not commence work now.

Eagle—Coal Mines and Coke Ovens.—E. J. Wyant, William Wyant, Annie B. Wharton and others have incorporated the Wyant Coal & Coke Co. for the mining of coal and the manufacture of coke. The authorized capital stock is \$500,000. Will succeed W. Wyant.

Huntington—Plaster Works.—D. W. and C. D. Emmons, W. E. Parsons and others have chartered the Fitzgerald Patent Prepared Plaster Co. for the manufacture of plaster. The capital stock is \$30,000.

Keyser—Bridge.—Mineral county will build an iron bridge over Patterson creek at or near Alaska. Span will be 150 feet. J. Bell can give information.

Keyser—Furniture Factory.—F. M. Reynolds, R. G. Richardson and J. D. Gelwicks are investigating the advisability of establishing a furniture factory.

Parkersburg.—Bick & Glann, of Toledo, O., have received contract to construct the foundations, masonry and approaches for the bridge over the Little Kanawha river, lately mentioned, at \$24,794.

Short Creek—Brick-yard, &c.—Hopkins & Bane have started a brick-yard, and intend adding the manufacture of tile.

Wellsburg—Iron Foundry.—The Wellsburg Foundry Co. has been incorporated by Charles Blue, H. C. Hervey and others to operate the Blankinsop iron foundry.

Wellsburg—Cigar Factory.—The establishment of a large cigar factory is projected.

SEWERAGE SYSTEM FOR RALEIGH.—NASHVILLE, TENN., July 19, 1889.—We have the contract for putting in sewerage system at Raleigh, N. C., our bid for the work being \$32,126.
QUINN & SMITH.

SAW AND PLANING MILL—MOUNT OLIVE, N. C., July 22, 1889.—Hall & Griswold, of Rocky Mount, N. C., and J. D. Aaron, of Mt. Olive, N. C., will put up saw mill of 15,000 feet daily capacity; also dry-kilns and planing machines with 10,000 feet daily capacity. All machinery bought except gang edgers and lath machinery and live rolls; want bids on them.

PIONEER LUMBER CO.

New Southern Banks.

Abilene, Texas.—The Farmers and Merchants' National Bank, capital \$100,000, is being organized. Charles Kenyon, of New York, and Col. James, of Baird, are said to be interested.

Arkansas.—Since September last 14 State banks have been organized in Arkansas with a paid-up capital of \$517,750, and two banks have added \$70,000 to their capital.

Atlanta, Ga.—A bill has been introduced in the legislature to incorporate the Atlanta Mutual Banking & Loan Co., with John Stephens, Evan P. Howell and others as incorporators.

Baltimore, Md.—It is stated that the Mercantile Trust & Deposit Co. contemplate increasing their capital to \$1,000,000.

Cheraw, S. C.—The Bank of Cheraw has increased capital stock from \$25,000 to \$50,000, previously reported.

Elkton, Md.—William M. Singerly, of Philadelphia, Pa., and others have organized a national bank.

Milledgeville, Ga.—The name of the bank lately reported as organized by Samuel Walker is the Merchants' Bank. Capital will be \$100,000.

Munfordsville, Ky.—The name of the bank reported last week as to be started is the Hart County Deposit Bank. Capital is \$35,000. Joel T. Price is president.

Port Deposit, Md.—The Cecil National Bank has declared a 6 per cent. semi-annual dividend.

Stephenville, Texas.—The First National Bank has been organized with \$50,000 capital. M. S. Crow is president; John R. Hoxie, of Fort Worth, vice-president, and G. W. Gentry, cashier.

Vienna, Ga.—A bill has been introduced in the legislature at Atlanta so incorporate the Bank of Vienna, previously mentioned as being organized.

BURNED.

Austin, Texas.—The grist mill of C. J. Martin and the establishment of the R. C. Koerber Patent Polishing Pecan Co.

Beatysville, W. Va.—The saw mill of W. F. Flinn wrecked by a flood.

Boone County, Ark.—Rhode's saw mill damaged by a boiler explosion.

Clinton, N. C.—The saw mill of James Powell and A. F. Johnson.

Morrilton, Ark.—The cotton gin of J. B. Wooten.

Opelika, Ala.—The saw mill of R. J. Trommell.

Patterson, La.—The foundry and machine shop of Mr. Stott.

Spring Hill, Ala.—The grist mill and cotton ginnery of John Allen.

Valdosta, Ga.—The saw mill of J. C. Wisenbaker wrecked by a boiler explosion. He will rebuild.

West Virginia.—The mills of Michael Boos and John Smith on Pond creek washed away by a flood.

Wirt County, W. Va.—The tram-road of Casto, Beard & Co. on Standing Stone creek washed away by a flood; loss \$7,000.

Wood County, W. Va.—Tomcra's Mill, T. W. Taylor's flour mill and Alfred Anderson's mill washed away by the flood.

STREET CAR SHOPS—MOBILE, ALA., July 18, 1889.—We are manufacturing our own cars and are ready to receive orders to build cars for other cities, both coaches of the lighter class and street cars of any pattern desired. We are just now equipping our shops with necessary machinery and can build considerably cheaper than Eastern factories. We have recently built 4 new coaches for suburban lines, besides our own horse cars. R. R. WARREN, President.

Building Notes.

Aberdeen, Miss.—The contract for the erection of the school building previously reported has been awarded to S. H. Berg at \$19,000. Architects are Bruce & Morgan, of Atlanta, Ga.

Anniston, Ala.—C. J. & T. L. Houser will erect a three-story building 30x120 feet.

Asheville, N. C.—A new edifice will be erected by the First Baptist Church. Dr. Nelson can give particulars.

Athens, Ga.—Hotel.—H. N. Taylor contemplates erecting a \$50,000 hotel.

Baltimore, Md.—The Memorial Methodist Church will erect an edifice on Frederick road near Ninth street.

Baltimore, Md.—The Loan, Guarantee & Development Co. has been incorporated with Hon. Edwin Warfield, president; Lennox Birchhead, vice-president, and A. B. Crane, secretary. The capital stock is \$200,000. They will deal in real estate and build houses.

Baltimore, Md.—P. Walsh & Sons have been awarded the contract to erect a stone parish building for Emanuel P. E. Church, previously reported. J. A. & W. T. Wilson are the architects. The cost will be \$20,000.

Baltimore, Md.—M. Z. Hammon will erect 12 two-story houses on Richardson street; Joshua Barton, 2 two-story houses on Huntington avenue; C. D. Hollins and A. C. Shaffer, 2 three-story brick buildings; Pinning Bros., 21 two-story brick buildings on Bond street, and H. Sanders & Bro., 6 two-story houses on Sanders street.

Brownsville, Tenn.—A building and loan association has been organized with P. B. Winston, president, and T. E. Glass, secretary.

Cambridge, Md.—Contract for the erection of the new building for the Dorchester National Bank, previously reported, has been let to Ennis & Christopher.

Charleston, S. C.—Emanuel Church, Rev. B. H. Williams, pastor, contemplates erecting a new church.

Chattanooga, Tenn.—A 12-room schoolhouse will be erected in the second district at a cost of \$30,000. Plans are wanted. Address Joseph Wassman.

Chattanooga, Tenn.—The Kennedy House will probably be enlarged.

Chester, S. C.—The city will issue \$20,000 of bonds for the erection of a city hall and schoolhouse. G. J. Patterson can give information.

Cloverport, Ky.—A new church will be erected for the Presbyterians.

Coleman, Texas.—J. T. Evans will receive proposals until August 2 for building a new jail for Coleman county.

Cullman, Ala.—The county commissioners have let contract for the erection of a new jail, 85x111 feet, to cost \$6,650, to the Pauley Jail Building & Manufacturing Co., of St. Louis, Mo.

Dallas, Texas.—The Fourth National Bank will erect a bank building on Main street and have plans prepared.

Dade City, Fla.—The Bank of Dade City will erect a two-story brick bank building.

Forsyth, Ga.—A branch of the Southern Mutual Building & Loan Association has been organized by Dr. J. B. Turner, J. W. Newton, P. B. Maynard and others.

Greenville, S. C.—The Home Building & Loan Association has been chartered by W. L. Mauldin, J. W. Lipscomb, J. H. Maxwell and others. The authorized capital stock is \$60,000.

Greenway, Ark.—S. C. Lovelace has contracted to erect a church for the Baptists.

Greer's Depot, S. C.—The Farmers' Alliance will erect a brick warehouse to be covered with sheet iron or tin, 100x50 feet. Bids are invited until August 6.

High Bridge, Ky.—Hotel.—A stock company will be organized to build a hotel.

High Point, N. C.—Hotel.—The erection of a large hotel is talked of.

Hope, Ark.—Senter & Co. contemplate erecting a \$20,000 block of buildings.

Jacksonville, Fla.—The Daniel Memorial Association will erect an orphan's home.

Jackson, Tenn.—The Bank of Madison will receive bids until July 31 for erecting a block of store buildings. MacDonald Bros., of Louisville, Ky., are the architects.

Knoxville, Tenn.—T. L. Dismukes, of Nashville, prepared the plans for the 7-story office building of R. S. Payne mentioned in last issue. It is to be 50x150 feet and to have elevators, fire-escapes, etc. The cost will be \$30,000.

Knoxville, Tenn.—The Presbyterians contemplate building a new church at West Knoxville to cost \$8,000 or \$10,000.

Knoxville, Tenn.—Knafe & Locke are having plans prepared for a four-story business house.

Lexington, Ky.—Prof. Wilbur R. Smith will, it is stated, erect a large college building at cost of from \$75,000 to \$100,000.

Little Rock, Ark.—T. B. Martin has let contract for his \$10,000 office building to Sims & Hedgpath. It is to be 50x140 feet. Orlopp & Kusener prepared the plans.

Little Rock, Ark.—Hotel.—Thomas Harding has prepared plans for another story to be added to the Capital Hotel. 50 rooms will be added. An elevator will be put in.

Lonsaconing, Md.—The Second National Bank will erect a bank building. Landwehr & Glick have the contract.

Louisville, Ky.—A new building will be erected for the school at St. Martin's Church.

Louisville, Ky.—The First National Bank will erect a large bank building at Third and Main streets. Work will soon be started.

Louisville, Ky.—The Equitable Life Insurance Co., of New York, N. Y., will probably erect a \$500,000 office building. They are now investigating.

Lynchburg, Va.—Hotel.—A four-story hotel to contain 100 rooms will be built in the West End.

Macon, Ga.—D. B. Woodruff is preparing plans for the \$35,000 bank building for the Macon Exchange Bank, previously mentioned. Contract will be let shortly.

Manchester, Va.—Hotel.—The South Side Land & Improvement Co., mentioned in last issue, contemplates building a hotel.

Memphis, Tenn.—The trustees of the Cossitt Library, Carrington Mason, secretary, lately reported as to erect a new library building, will receive plans until September 1 for same. The building is to be of stone, 148½x200 feet, with accommodations for 25,000 or 30,000 books.

Memphis, Tenn.—Four new schoolhouses are to be built. A. B. Hill, secretary board of education, can give particulars.

Middlesborough, Ky.—The First National Bank and others will erect a \$10,000 brick office building.

Middlesborough, Ky.—R. Z. Gill, architect, has let contract for the office building of the Middlesborough Town Co. to Turner & Claiborne Bros., of Knoxville, Tenn., and contract for schoolhouse to Vinsen & Graf.

Morgan Springs, Tenn.—G. W. & J. Morgan are building the hotel previously reported.

Murfreesville, Ky.—The Hart County Deposit Bank will erect a bank building at once.

Nacogdoches, Texas.—Mayer & Schmidt will erect a \$16,000 opera-house.

Nashville, Tenn.—Samuel McKay will erect a two-story dwelling, 60x80 feet, to cost \$10,000; A. Cole, a two-story dwelling, 40x68 feet, to cost \$10,000; Captain Lateral, an \$8,000 dwelling; Mr. Well, a \$16,000

dwelling to be heated by steam; Hall-McLester Co., a six-story building, 40x170 feet, to cost \$75,000; Morrison & Bros., 2 two-story dwellings to cost \$8,000; J. Thompson, a \$10,000 dwelling—T. L. Dismukes is architect for all of the above; Mr. Pitts will erect a two-story dwelling, 45x80 feet, to cost \$15,000—George W. Thompson is the architect.

Nashville, Tenn.—The Interstate Building & Loan Association has been chartered by T. J. Bunn, A. E. Stevenson, C. E. Latham and others.

Nashville, Tenn.—The Methodist Church will build a new edifice 60x100 feet to cost \$20,000. T. L. Dismukes prepared the plans.

Nashville, Tenn.—A 2-story school building will be built in the Thirteenth district to cost \$6,000. T. L. Dismukes is the architect.

Newport, Fla.—Hotel.—It is reported that a Chicago party has bought the Sulphur Springs and will build a large hotel.

New Orleans, La.—James H. Windrim, supervising architect Treasury Department, Washington, D. C., will receive proposals until August 16 for furnishing and putting in place complete the iron roof for the United States custom-house building. The drawings can be seen at the Mechanics, Dealers and Lumbermen's Exchange, New Orleans, or be had on application.

Parkersburg, W. Va.—A three-story high school building will be erected. Architect Vost, of Columbus, Ohio, prepared plans.

Pine Bluff, Ark.—The county court has ordered the building of a \$17,000 courthouse.

Pine Bluff, Ark.—Hotel.—The Pine Bluff & Sulphur Springs Railway & Land Co. is being organized and will build a large hotel at Sulphur Springs near Pine Bluff.

Pocomoke City, Md.—The National Bank, Rev. William Dale, president, will erect a bank building.

Savannah, Ga.—Hotel.—The Savannah Hotel Co. will add 26 rooms to their hotel, now building.

San Antonio, Texas.—The Belknap Rifles will build an armory 80x100 feet to cost \$12,000.

Seddon, Ala.—Hotel.—A hotel will probably be built. W. C. Richardson can give information.

Spencer, W. Va.—Henry Obliennes, of Athens, Ohio, has received contract to build the second hospital for the insane, lately mentioned, at \$35,000.

Tazewell, Tenn.—Hotel.—A \$5,000 hotel is to be built.

Thomasville, Ga.—The contract for the two-story brick jail, 41x45½ feet, previously reported, has been let to the Pauley Jail Building & Manufacturing Co., of St. Louis, Mo., at \$11,200.

Troy, Ala.—Hotel.—O. C. Wiley will be interested in the company lately reported as to be formed to build a hotel. The cost is to be from \$15,000 to \$25,000.

Washington, D. C.—The Richmond & Danville Railroad Co. (office, Richmond, Va.) will erect a new brick freight depot 42 x 176 feet to cost about \$7,000.

Washington, D. C.—George O. Cook has received contract to build the schoolhouse on Steuben street at \$21,250.

Washington, D. C.—A six-story building, 150x60 feet, to cost \$65,000 will probably be built at the corner of Third and G streets for the Eleventh Census Bureau.

Washington, D. C.—Howarth & Yates will erect 3 brick dwellings on N street to cost \$10,000; W. W. Farrar, a \$6,000 brick dwelling; Mr. Callaghan, agent, 4 two-story houses to cost \$14,000; Hon. George Hearst, a two-story brick and stone stable, 43x62 feet, to cost \$8,000; W. B. Noble, 7 one-story stores, 22x110 feet, to cost \$30,000—James G. Hill is the architect and C. C.

Martin has the contract; Dr. W. C. Baldwin, a four-story residence to cost \$13,500; Mrs. R. S. Marshall, 2 three-story dwellings to cost \$12,000, and Charles Gesaford, 2 brick dwellings on East Capital street to cost \$9,000.

Weatherford, Texas.—J. N. Haney will erect two stone buildings 25x100 feet each; I. N. Roach, a three-story building, and W. C. Neer, two stone buildings.

Wilmington, N. C.—The contract for building the new edifice for the Fifth Street Methodist Church, previously reported, has been awarded to E. G. Porter and W. H. Godwin, of Goldsboro.

Wynnton, Ga.—The trustees of the Wynnton High School have contracted with the Columbus Iron Works Co. for the erection of a new schoolhouse.

STARTING KNITTING FACTORY—TROY, ALA., July 20, 1889.—We have organized knitting factory and will manufacture our own yarn. We are now ready for the purchase of machinery.

CHAS. HENDERSON, President.

RAILROAD PROJECTED—MEMPHIS, TENN., July 18, 1889.—Engineers are in the field surveying a route for a railroad from Humboldt, Tenn., to Hickman, Ky. Charter has been obtained and work will commence as soon as local subscriptions are secured.

W. A. CRAWLEY, Vice-president.

BUILDING ANOTHER STAVE FACTORY—MEMPHIS, TENN., July 18, 1889.—We are putting up another stave factory, same capacity as one now running, and are adding to our kiln another room.

DELTA STAVE CO.

ANOTHER COTTON FACTORY TO BE BUILT. ANDERSON, S. C., July 16, 1889.—Our townsman, Mr. M. Kennedy, with others, intend to build a cotton factory in the near future for the purpose of spinning yarn.

W. H. HARDIN.

WATER WORKS PROPOSED—DE LAND, FLA., July 20, 1889.—Plans are now being made for a system of water works here.

SILAS B. WRIGHT.

COTTON FACTORY PROJECTED—JEMISON, ALA., July 19, 1889.—We want to put up a factory. The capital stock is to be \$100,000. We haven't yet got any machinery. Want price-list. It will be built soon.

W. E. LOWERY.

IRON BRIDGE TO BE BUILT—COLUMBIA, TENN., July 22, 1889.—An iron bridge will be built at a cost of \$28,000, estimated. Any communication addressed to James Andrews, Columbia, will be answered.

ROBT. PILLOW.

ENLARGING WHEEL FACTORY—COVINGTON, KY., July 20, 1889.—We have organized a stock company of \$50,000 capital stock, all taken at par, and an addition to our factory is now in course of erection, which will enable us to increase our output some eight or ten times over our present capacity. We will add some new machinery.

THE HOWELL WHEEL CO.

TO BUILD A FINE LARGE HOTEL—DALLAS, TEXAS, July 19, 1889.—I have organized a company known as the Oriental Hotel Co. for the purpose of erecting a hotel in this city. The contract for the excavations will be let to-morrow. The dimensions of the building will be 128x200 feet, six stories in height above the basement. Mr. Isaac S. Taylor, of St. Louis, is the architect. We will want to purchase machinery, boilers, engines, electric-light plant and elevators. The building will be heated by steam. The work of erecting the building will be pushed without delay.

THOM FIELD, President.

Production of Pig Iron the First Six Months of the Year.

From advance sheets of the Bulletin of the American Iron and Steel Association we get the following statistics of the production of pig iron in the United States during the first half of the present year:

TOTAL PRODUCTION OF PIG IRON.

States.	Production—Tons of 2,000 lbs. (Includes Spiegel-eisen.)		First half of 1889.
	First half of 1888.	Second half of 1888.	
Maine.....	2,530	3,024	5,554
Massachusetts.....	7,005	6,343	13,348
Connecticut.....	10,236	11,408	21,644
New York.....	134,900	129,280	264,180
New Jersey.....	30,393	31,489	61,882
Pennsylvania.....	1,630,845	1,958,341	3,589,186
Maryland.....	6,350	11,356	17,706
Virginia.....	99,495	104,901	204,396
N. Carolina.....	1,100	1,300	2,400
Georgia.....	23,638	15,730	39,368
Alabama.....	169,696	379,796	549,492
Texas.....	2,668	3,619	6,287
West Virginia.....	45,601	49,658	95,259
Kentucky.....	21,367	35,533	56,900
Tennessee.....	122,817	145,114	267,931
Ohio.....	528,536	575,282	1,103,818
Indiana.....	7,300	7,960	15,260
Illinois.....	294,580	284,787	579,367
Michigan.....	126,578	126,673	253,251
Wisconsin.....	51,477	64,560	116,037
Missouri.....	60,789	30,994	91,783
Colorado.....	11,322	9,355	20,677
Oregon.....	.....	2,509	2,509
Wash'n Ty.....	.....	4,093	4,093
Total.....	3,382,593	3,886,004	7,268,597

From these figures it will be seen that the Southern States made in the first six months of 1889 744,619 tons of iron, against 485,852 during the same period of last year, an increase in production of 258,767 tons, or 53 per cent. The percentage of increase in the rest of the country was 15. Alabama, of course, showed the largest rate of increase, going from 169,696 to 364,346, more than doubling its production, or, to be exact, making a gain of 114 per cent.

It should be remembered that many of the new furnaces in Alabama and elsewhere in the South have not yet gone into blast. Their product will make the difference in the rate of increase North and South even larger for the latter half of the year than for the six months just ended.

Divided as to fuel, the production in the first half of 1888 and of 1889 was as follows:

	First six months—1888.	1889.
Charcoal iron.....	278,258	306,780
Bituminous coal and coke iron.....	2,140,817	2,583,508
Anthracite and mixed anthracite and coke iron.....	953,448	927,611

In discussing the proposed World's Exposition at New York in 1892, the American Economist presents the following table to show how we, as a country, have grown since the Centennial Exposition:

	1876.	1888.
Population.....	44,000,000	60,000,000
Estimated value of property.....	\$35,000,000,000	\$55,000,000,000
Savings banks deposits.....	\$902,000,000	\$1,400,000,000
Gold, silver and paper currency.....	\$600,000,000	\$1,700,000,000
Gold coin.....	\$130,000,000	\$705,000,000
Silver coin.....	\$36,000,000	\$386,000,000
Manufacturing, mining, &c.....	\$4,400,700,000	\$7,000,000,000
Foreign commerce (imports and exports).....	\$1,000,000,000	\$1,500,000,000
Number of postoffices.....	36,000	57,000
Miles railroad.....	77,000	157,000
Annual railroad freight earnings.....	\$360,000,000	\$640,000,000
Annual railroad passenger earnings.....	\$136,000,000	\$240,000,000
Average freight per ton per mile.....	1.40 cents.	0.09 cent.
W. U. Telegraph lines.....	73,600 miles.	171,000 miles.
Newspapers and periodicals.....	9,000	14,000
Pounds wool used.....	230,000,000	378,000,000
Bales cotton produced.....	4,500,000	7,000,000
Tons pig iron produced.....	2,800,000	7,000,000
Tons steel rails produced.....	750,000	2,350,000
Barrels petroleum produced.....	8,000,000	28,000,000
Tons sugar used.....	750,000	1,500,000
Tons coal mined.....	50,000,000	110,000,000
Patents applied for.....	21,000	36,000
Bushels wheat raised.....	189,000,000	456,000,000
Bushels corn raised.....	1,100,000,000	2,000,000,000
Bushels oats raised.....	300,000,000	700,000,000
Value farm animals.....	\$1,650,000,000	\$3,500,000,000

Consolidation of the Land Companies of Birmingham.

The contemplated consolidation of all the land companies of Birmingham, Ala., of which we have made mention from time to time, has at last been accomplished. The joint corporation will be known as the Birmingham Land Co., and according to its charter its capital stock is to be not less than \$1,500,000, nor more than \$30,000,000. As under the laws of Alabama a company cannot organize with more than \$10,000,000 capital stock, the incorporation had to be in some other State, and a charter was secured at Richmond, Va., under the laws of Virginia. The officers of the new company are: President, John W. Johnston, the president of the Georgia Pacific Railroad; vice-president and general manager, Dr. H. M. Caldwell, president of the Elyton Co.; secretary and treasurer, Frederick Hardy. The directors are: John W. Johnston, H. M. Caldwell, William A. Walker, George L. Morris, John B. Boddie and Frederick Hardy, all of Birmingham; James H. Dooley, of Richmond, Va., and John C. Maben, of New York.

THE Diamond Cottonseed Huller Co., of Memphis, Tenn., has just received an order from Hamburg, Germany, for one of their Diamond cottonseed hullers, and also an order for a Diamond feed mill from Illingen, Wurtemberg, Germany.

MR. EDWARD A. OLDHAM, recently of the staff of the Charleston (S. C.) World, will start a daily morning paper to be called "The Globe," in Durham, N. C. Mr. Oldham is a prolific and vigorous writer, and Durham is a progressive, rapidly growing city. "The Globe" ought to prove a successful venture, and a valuable aid to the further advancement of the place of its publication.

A most unique process is proposed by a well-known member of the Franklin Institute, of Philadelphia, for consuming air as a fuel for generating power. It is well known that air is combined with coal gas and with hydro-carbon vapors. The new fuel is the air itself, which, in a powerful blast, is directed upon an incandescent substance, such as coal made white hot, pure carbon or any other material that can be made to glow. Coal, hydro-carbons or anything combustible may be employed to give the initial incandescence, but once the blast strikes the luminous body the utmost intensity of heat is secured, apparently by the combustion of the air, and it may be maintained for an indefinite period by merely preserving the incandescence. The discovery is soon to be put to practical tests.

THERE are four separate and distinct enterprises seeking location here, says the Myrtle (Miss.) Bee, and we expect soon to report the location of at least three of them. Our citizens are awake to the interests of the town, and are not disposed to withhold their aid in anything that will add to the wealth and advancement of our country. We have labor and everything else needed, and now we want something to keep that labor and capital employed.

History of a Prosperous Enterprise.

[Special correspondence MANUFACTURERS' RECORD.]

CHESTER, S. C., July 16, 1889.

The Moffatt Manufacturing Company has been organized here with a capital of \$30,000, of which \$18,000 has been paid and the balance is subscribed "on call." The officers of the company are at present, Joseph Wylie, president; Dr. G. B. White, vice-president, temporary secretary and treasurer; W. E. Moffatt, superintendent. This company has bought the plant which Mr. Moffatt has created during six years, and proposes to enlarge it to any extent that may be necessary as business increases. This is provided for in the charter, which permits the company to add to its capital whenever the stockholders wish it.

The history of this enterprise shows what will and skill can do without money. Mr. Moffatt's parents were natives of this section, but moved to Tennessee before he was born. His youth was spent upon his father's farm, but he inherited from his maternal grandfather a strong mechanical taste, and some eight years ago he came here and went into the latter's employ. When the grandfather died Mr. Moffatt, six years ago, began work on his own account. He had neither money nor credit, but he had skill, industry and a determination to succeed. The result was the ownership of a well-equipped machine shop worth more than \$5,000, every cent of which was paid for, and an established reputation for probity, diligence and mechanical ability. These inspired our local capitalists with confidence in his ability to conduct a much larger establishment, and hence this new company. Its business will be to make and to repair all kinds of machines, and to do whatever jobs in wood or metal that offer. A contract has just been offered by a Charlotte concern for making 4,500 oak plow beams footed with iron. The company will make several articles patented by Mr. Moffatt, one of which is a wheel for wheelbarrows, of novel design, that is universally approved by contractors. Another is a cotton-seed planter that has been tested. It will also make a dump cart, designed but not patented by Mr. Moffatt, that all railroad men who have seen it pronounce the best thing of the kind devised. This company will soon add extensively to its machinery and to its force of employees. Chester is a railroad center and therefore a good distributing point. It is believed that this small plant will, under conservative management, be developed into an extensive industry.

S.

A FIRM engaged in the manufacture of tin cans and japanned ware has patented an invention which, if it is what it is claimed to be, will greatly interest Southern iron men. It is, in brief, a process by which molten metal may be rolled into any desired shape, thus saving all intermediate processes. It was invented originally to roll molten solder into thin plates, but the process is pronounced by experts to be equally applicable to iron and steel in its various forms of plates, structural iron and rails. It is believed that the cost of manufacturing steel rails can be reduced \$10 per ton, and that thin iron plates for tinning can be made much below cost of production of tin plates in Wales, thus making a new industry in this country. The molten metal is passed between rollers, which is chilled as it passes by rollers being kept cool by a stream of water which passes through them. Another advantage is that iron and steel so rolled will be much more even and closer in texture than that made by present methods, being free from the air holes which result from the intermediate processes.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Artesian Wells.—The Floresville Water Works Co., Floresville, Texas, want bids for boring one or more artesian wells.

Bakery.—D. W. Branch, Troy, Ala., wants machinery for a bakery.

Belting, Corn Mill, &c.—H. Shankel, Yellow Springs, Md., wants quotations on belting, portable corn mills, cast iron gearing, &c.

Binders.—George S. Batcheller, Acting Secretary of Treasury, Washington, D. C., will receive proposals until August 5 for furnishing 1,500 binders, Koch's patent or similar thereto, each 17 1/4 inches long by 14 3/4 inches wide, with flexible backs 3 1/4 inches wide.

Boiler.—E. G. Grob, superintendent Jekyll Island Club, Brunswick, Ga., wants lowest figures on a Scotch iron boiler for engines of the following dimensions: 2 high pressure engines, 9-inch diameter of cylinder, 10-inch stroke of piston, to have a working pressure of 100 pounds per square inch, following full stroke, both engines connected to same shaft; boiler to be delivered in Jacksonville, Charleston or Savannah; it to be made of first class government stamped iron. The dimensions of the hull are as follows: length 59 feet, breadth 15 feet, depth of hold 6 feet, space in boiler room across ship 7 1/2 feet, from engine to forward bulkhead 10 feet, which can easily be removed if necessary. State length of time required to make the boiler.

Boiler, Engine, &c.—The Oriental Hotel Co., Dallas, Texas, will want boilers, engines, &c., for a six story hotel to be built.

Boiler, Engine and Corn Mill.—The Pine Bluff Mill & Elevator Co., Pine Bluff, Ark., want a steel boiler, 48 inches by 20 feet, with 12 6-inch flues, side crank engine, 16x32 inches or 18x30 inches, and two or three corn mills.

Cases, &c.—M. R. Thorp, chief supply division War Department, Washington, D. C., will receive proposals until August 15 for furnishing the Signal Office with certain record cases and for reconstructing file case.

Churns.—J. C. McRae, Lake Providence, La., wants names of manufacturers of churns.

Corn Mill.—The Chewacla Lime Works, Chewacla, Ala., want a corn and feed mill and equipments.

Cotton Machinery.—W. E. Lowery, Jemison, Ala., wants prices on machinery for a cotton mill.

Cotton Machinery.—M. Kennedy, Anderson, S. C., will want machinery for a cotton yarn mill.

Cupola, Lathe, &c.—I. L. Gamewell, Atlanta, Texas, wants catalogues with net prices of cupola, 24 inches inside diameter, engine lathe, 18 or 20 inches swing and 12 or 14-foot bed, and a 24-inch upright drill.

Desks.—Wm. A. Hill, Greer's Depot, S. C., wants to buy 36 school desks, viz: 18 double No. 1 and 18 double No. 3 for the Greer's Graded School.

Disintegrator.—The Talladega Stoneware Co., Talladega, Ala., want a disintegrator that will remove small pebbles without crushing.

Drain-pipe Machine.—J. F. Eldridge, Mountain House, Morganton, N. C., wants a machine for manufacturing drain pipe.

Electric-light Plant.—Proposals for installing an electric-light plant at the Washington navy-yard will be received until August 6 by G. B. White, Navy Department, Washington, D. C.

Electric-light Plant.—The Keystone Lumber & Improvement Co., Bogie Chitto, Miss., want a plant for lighting their planing mill alone or two saw mills and planing mill combined.

Electric-light Plant and Elevators.—The Oriental Hotel Co., Dallas, Texas, will want an electric-light plant and elevators for a six-story hotel to be built.

Elevator Chain.—The Foote & Zuber Lumber Co., Atlanta, Ga., want bids at once on 300 feet of slab elevator chain, with plans for working it.

Engine and Boiler.—Parr Bros., Athens, Ga., want a 2 horse-power engine and boiler.

Engines, Boilers, Shafting, &c.—J. Faust & Sons, Baltimore, Md., want 50 horse-power engine, two boilers, shafting, pulleys hangers, steam pump, large tank, &c., for shoe factory.

Exhaust Fan.—The Villa Rica Lumber Co., Villa Rica, Ga., want an exhaust fan and pipe for shavings and dust.

Gang Edgers, Lath Machines, &c.—The Pioneer Lumber Co., Mount Olive, N. C., want bids on gang edgers, lath machines and live rolls.

Gas Machine.—J. Faust & Sons, Baltimore, Md., want a gas machine.

Gin and Grist Mill Machinery.—J. A. Lerenz, Panna Maria, Texas, wants one 3-inch tube expander, 4 ton wagon scale, 60-saw gin feeder, 10-inch 3 and 4-ply belting, feed mill, asbestos packing, &c.

Gin Machinery.—Gin, conveyor, &c., are wanted by the Chewacla Lime Works, Chewacla, Ala.

Hoisting Engine.—The Lerner Manganese Co., Mount Athos, Va., will want a hoisting engine soon.

Ice Machinery.—G. H. Chipman, Childress, Texas, wants information as to the cost of machinery for an ice factory.

Iron Bridge.—W. H. Jones & Son, Macon, Ga., will want an iron bridge for a dummy line, with two places for wagons and two places for pedestrians. Length is to be 300 to 500 feet.

Iron Bridge.—James Andrews, Columbia, Tenn., will receive plans and specifications for an iron bridge to be built across Duck river. Cost is not to exceed \$21,000.

Iron Bridge.—The Baltimore & Harford Turnpike Co., 312 St. Paul street, Baltimore, Md., will receive proposals until August 1 for building a single-span iron bridge about 52½x18 feet across Heiring run.

Iron Fronts and Glass.—William S. Jordan, Madison, Fla., want to correspond with dealers in regard to materials for iron and glass fronts for stores.

Iron Roofing.—J. Faust & Son, Baltimore, Md., want bids on iron roofing.

Iron-working Machinery.—The Hughes Springs Plow Co., Hughes Springs, Texas, want a boring machine, mortising machine, good trimming lathe, planer and shingle machine.

Knitting Machinery.—The Henderson Knitting Co., Troy, Ala., want machinery for knitting factory. They will make their own yarn.

Lathe, &c.—A. Bradley, Maple Grove, Ala., wants prices on spoke lathes, sticker and a belt for polishing wagon spokes.

Laundry Machinery.—D. W. Branch, Troy, Ala., wants steam laundry machinery.

Mortiser, Lathe, &c.—D. B. Riggan, Pine Bluff, Ark., wants prices f. o. b. cars at Pine Bluff on one single and double spindle shaper, mortiser No. 2, lathe, 20-inch swing, knife grinder and a blower.

Motor.—J. B. Colgrove & Co., 6 Wall street, New York, want a motor, standard gauge, 5 feet base, load mostly on motor wheels instead of trucks. Second-hand will do if in good condition. Must be in the South.

Planer, &c.—N. S. Collins, Lake City, Fla., will purchase a planer, shingle machine and lath machine.

Pulverizing Machinery.—A. R. Ellerson & Co., Richmond, Va., want machinery for reducing tobacco stems to a powder. Dryer will probably be needed.

Railroad Equipments.—The Washington Street Railroad Co., Washington, Ga., want prices f. o. b. at Washington of 20-pound steel rails, splice bars, bolts, &c., for 1 mile or more of road.

Railing.—Governor L. S. Ross, Austin Texas, will receive proposals until August 30 for building an iron fence about 3,545 feet long and four feet high to enclose the capitol grounds. Will include gates.

Rails and Dummy Engine.—W. H. Jones & Son, Macon, Ga., will want rails, not less than 44 pounds to yard, and dummy engines.

Saw Mill.—W. E. & W. Lambeth, Gold-dust, Tenn., will purchase a circular saw mill with steam feed.

Saw and Planing Machinery, &c.—H. G. Hall, Shelby, N. C., wants 30 horse-power boiler, 25 horse-power engine, resaws, dry-kiln, planers and matchers, sash, blind and door machinery, &c.

Soap Machinery.—J. C. P. Watson, Trio, N. C., wants information as to where machinery for soap factory can be purchased.

Stand-pipe.—The Camden Water Works Co., Camden, Ark., will want bids for a stand-pipe, 15x75 feet, as soon as specifications can be prepared.

Washer, Cable, &c.—Abbott & Ring, 225 Dearborn Street, Chicago, Ill., will purchase machinery for washer and overhead cable 3 miles long, mining machinery, &c.

Water Wheel, Bolting Cloths, &c.—J. W. Carter, Warsaw, Va., wants a turbine water wheel, 3½ to 4 feet in diameter, bolting cloths, belting, &c.

Water Wheels and Pump.—The Lerner Manganese Co., Mount Athos, Va., want two turbine water wheels with gearing and a pump that can be run by water power.

Wood-working Machinery.—The Villa Rica Lumber Co., Villa Rica, Ga., want moulding machines, re-saw, slab cutter and lath machine.

Wool-scouring Mill.—J. E. Dunbaugh, Weatherford, Texas, wants information as to cost of machinery and labor necessary for a wool-scouring mill with a capacity monthly of 375,000 lbs.

WATER WORKS FOR FLORENCE.—MACON, GA., July 15, 1889.—We have just closed contract to erect works of 3,000,000 gallons daily capacity at Florence, Ala.

JETER & BOARDMAN WATER & GAS ENGRS.

CONTEMPLATES BUILDING COTTON OIL MILL.—RED SPRINGS, N. C., July 15, 1889.—S. R. Townsend, Red Banks, N. C., wants information as to the make and cost of machinery for a 10-ton cotton-seed oil mill. If can get machinery in time for this season will commence building August 10.

R. T. COVINGTON.

WILL BUILD MARBLE MILL.—KNOXVILLE, TENN., July 16, 1889.—We shall build stone mill, but shall probably have our machinery under contract within ten days. Machinery contemplated at outset is boiler, 75 horse-power; engine, 60 horse-power; 4 gang saws, 1 rubbing bed, 1 polishing machine, 1 lathe, 1 pump, 1 box saw, 1 saw blade punch, 1 traveler derrick, shafting, belts, pulleys, &c.

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HETHERINGTON & NASON,

Manufacturers and Dealers in Supplies for

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Boiler Plate and Tank Iron, Lap-Welded Pipe and Boiler Tubes, Boiler and Sheet Iron Rivets, Steam Brass Goods and Engine Trimmings, Iron Valves and Fittings, Pipe Workers' and Machinists' Tools, Wood and Iron Pulleys, Belting, Hose and Packing, SAWER PIPE, FIRE BRICK and CLAY.

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ARCHITECTS and MILL ENGINEERS
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.

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NEWBURYPORT, MASS.

PLANS AND SPECIFICATIONS FURNISHED FOR THE CONSTRUCTION EQUIPMENT AND ORGANIZATION OF COTTON AND WOOLEN MILLS.

JONES & MACK
Formerly JONES & ROGERS,
MECHANICAL ENGINEERS,
Designers of Standard and special Machinery, Drawing of any description.
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Write for estimates on what you want.
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Extension truss, to drive from one bent to another. 30 feet lateral swing, 6 feet from center. Fitted up with our new-style Nasmyth Steam File Hammer.
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PRESS
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—AND—
Consulting Electrician,
321 E. 14th St., New York.

Tests, Measurements and Estimates of all kinds. Sole agent of the Phoenix Incandescent Lamp Co. Lamps for any System and Candle Power.

NOTICE To Contractors & Machine Shops

PLANS AND SPECIFICATIONS for both construction and equipment of the GALVESTON COTTON MILLS, GALVESTON, TEX., can be seen at our office, and contractors and builders desiring to estimate for the erection of the buildings, and machine shops wishing to estimate on any or all machinery for the equipment of said mill of 25,000 spindles, for making brown cottons, will please call and examine plans at once, as all bids must be received at the office of A. Weis, president, Galveston, Texas, on or before the 15th day of August, 1889. The company reserve the right to reject any or all bids.

G. R. MAKEPEACE & CO.
Mill Engineers,
PROVIDENCE, R. I.

BANKERS AND BROKERS.

WILSON, COLSTON & CO. [Members of Baltimore Stock Exchange.]
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Investment and Miscellaneous Securities a specialty, and large loans handled. Exceptional facilities for dealings in all classes of Southern Bonds. Loans on Collateral Securities negotiated. Quotations and information furnished on application, and correspondence invited.

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NO SEAM TO MELT
HUNT & CONNELL, Limited, SCRANTON, PA.

JOHN L. WILLIAMS & SON,
BANKERS,
—RICHMOND, VA.—

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers,
Richmond,
RICHMOND, VA., July 23, 1889.

	BID.	ASKED.
North Carolina 4's, 1910	97	98
North Carolina 6's, 1910	107	108
Virginia New 3's, 1910	67½	67¾
Lyndeburg, Va., 5's, 1910	103	104
Petersburg, Va., 5's, 1910	103	104
Norfolk, Va., 5's, 1910	104	105
Richmond, Va., 5's, 1910	104	105
Atlanta & Charlotte R.R., 1st 7's, 1907	107	108
Atlanta & Charlotte G'd 6's, 1908	107	108
Char., Col. & Aug. R. & G. 6's, 1908	108	109
Georgia Pacific R.R., 1st 6's, 1908	112	113
Georgia Pacific 2d 5's, 1903	82	83
Petersburg Railroad Class A 5's, 1906	104	105
Petersburg Railroad Class B 6's, 1906	106	107
Rich. & Danville R. & G. 6's, 1910	107	108
West. N. Car. R. & G. 6's, 1910	99	100
Northernwestern N. Car. R. 1st 6's, 1908	102	103
Atlanta & Charlotte R. & G. Stock	85½	86
North Carolina Railroad Stock	109	110
R. F. & Pot. R. R. Div'd Obligations	112½	113
Virginia Midland Railway Stock	40	41
Sloss Iron & Steel Co. Stock	43	44
Sloss Iron & Steel Co. 1st 6's	94	95
Sloss Iron & Steel Co. 2d 6's	84	85

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Interest allowed on deposits of Banks, Bankers, Corporations and Individuals. Railroad, Municipal and other Loans Negotiated, and advances made on Grain, Cotton, Stocks and Bonds, and other approved securities.

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on Great Britain and Ireland, France, Germany, Holland, British West Indies and other foreign points.

Issue Commercial and Travelers' Letters of Credit.

IN STERLING, available in any part of the world; IN FRANCS, for use in Martinique and Guadeloupe; and IN DOLLARS, for use in this country, Canada, Mexico, the West Indies and South America.

Make Cable and Telegraphic Transfers of Money.

Drafts Collected in all parts of the World.

BROWN, SHIPLEY & CO., LONDON.
Financial Agents of the United States Government in England.

SAW AND PLANING MILL—SWORD'S CREEK, RUSSELL CO., VA., July 20, 1889.—I am putting in a No. 2½ Lane Manufacturing Co.'s mill, with 50 horse-power boiler and engine, gang edger made by Brennan & Co., of Louisville, Ky., and lath mill from Butterworth & Lowe, of Grand Rapids, Mich. Intend putting in a planer, but have not yet decided on what make. The mill will have a capacity of 40 M feet per day, but as the quality rather than the quantity of lumber is our aim, we do not expect to make over 20 M feet per day. I have 24,000 poplar trees in the counties of Russell and Buchanan, none of which are smaller than 24 inches in diameter and will average about 1,200 feet per tree. I also have several thousand white and chestnut oak trees which are all very fine timber. I expect to employ about 40 to 50 men in the logging and mill. J. F. PRETTYMAN.

WILL BUILD SAW MILL—GOLDUST, TENN., July 14, 1889.—We have plans out for a circular mill, and not a band mill. We will buy new saw mill rig with steam feed. W. E. & WARNER LAMBETH.

STEAM LAUNDRY—SOMERVILLE, TENN., July 16, 1889.—The Somerville Steam Laundry Co. has been organized at this place, and they desire a competent manager. J. H. DORTCH.

CONTEMPLATE BUILDING IRON BRIDGE—KNOXVILLE, TENN., July 18, 1889.—The Knoxville Southern Railroad Co. is contemplating the erection of a bridge 600 feet long across the Tennessee river below Knoxville.

KNOXVILLE SOUTHERN RAILROAD CO.

WILL ENLARGE WATER WORKS—CAMDEN, ARK., July 16, 1889.—We contemplate within next 60 days to commence extending our mains and expect to put down from 3 to 4 miles pipe before 1st November. We will also put in a 15x75 stand-pipe, and will be ready to receive bids on same so soon as we get up our specifications. We will add another pump of 1,000,000 gallons capacity. CAMDEN WATER WORKS CO.

NEW WORKS—COLUMBIA, ALA., July 18, 1889.—We contemplate building a two-story brick shop and foundry attached which will cover an area of about ¾ of an acre. We are also going to add a lumber-yard and some more wood-working machinery. COLUMBIA VARIETY WORKS.

COTTON MILL PROJECTED—HARDEN, N. C., July 16, 1889.—We are trying to form a stock company to build a carpet and yarn mill of 2,500 spindles, and we are yet in need of a few thousand to get the amount we think necessary to have.

O. D. CARPENTER.

ELECTRIC LIGHTS FOR FORT PAYNE—FORT PAYNE, ALA., July 18, 1889.—We have organized an electric-light plant called Fort Payne Electric-light, Power & Heating Co. J. W. Spaulding is president, and A. E. Chapman, secretary and treasurer. FORT PAYNE COAL & IRON CO.

CONTEMPLATE ENLARGING COTTON FACTORY—GRIFFIN (Ga.), July 20, 1889.—The Kincaid Manufacturing Co. contemplate an addition of 2,500 spindles and 50 looms in 1890 to fill mill building.

M. J. KINCAID, President.

ENLARGING WATER WORKS—NEW DECATUR, ALA., July 15, 1889.—It is proposed to enlarge our water works at once, from 20 miles now, to 30 miles in the near future, and we are already putting in pumps to bring our pumping capacity up to 6,000,000 gallons in 24 hours. DECATUR WATER CO.

Literary Notes.

THE ART OF SELLING. By T. F. Goddard. New York: The Baker & Taylor Co. 50 cents.

In this book the author lets the reader into the secrets of the accomplished and successful salesman, illustrates his tact and finesse, and tells how he masters men. But beyond this, the work embraces much information which will be instructive and useful to all classes of business men, discusses fully the characteristic methods of conducting business to-day, and makes an interesting application of character reading to the work of business negotiations.

THE INCANDESCENT WIRING HANDBOOK is a volume that appeals to nearly every practical man. Electricity is such a great and mysterious force that we are all seeking information about it, yet it is so dangerous that we dare not touch it without first informing ourselves in regard to it. This handbook, which contains 35 illustrations, is written by F. B. Badt, and published by the Electrician Publishing Co., of Chicago. It contains many practical suggestions on matters on which only experts would be posted. There are also tables as to what sizes of wire to use, the percentages of loss in conductors, the various methods of running wires are given, etc. In fact, the whole groundwork of topics is well grasped for so small a volume. Considering the complexity of the subject this little volume makes things very plain and comprehensible. The price of the book is \$1.

In the number of Good Housekeeping for July 20, just at hand, appears the first chapter of the new series by Catherine Owen, "Helps to Young Housekeepers Over the Hill of Difficulty." Its promise, laying out as it does in a very pleasant way a practical course of instruction on points much neglected by teachers of housekeeping, is most encouraging. There is a very timely paper by Jean Gray on the preparation of salads, and another summary topic, discussed by Ruth H. Nettleship, is "Cool Homes." Beans are treated by Helen Campbell, who gets the prize for the best paper on that topic. A suggestive paper on "A Summer Vacation" affords a notion how pleasure and profit may be combined. Another timely paper is that on "Pickles," by Mrs. Mary J. Ashton. Indeed all the papers are timely, and there are others as good if not better besides those named, including a taking story about "Jill's Silver Spoons." The general departments are equal to the rest.

TO EXTEND ELECTRICAL RAILROAD—NASHVILLE, TENN., July 18, 1889.—We are now soliciting bids for the extension of our electric plant, and will in the near future equip all of our system of roads with electricity.

McGAVOCK & MT. VERNON ST. RY. CO.

You may talk about improvements, factories or other evidences of prosperity, but unless the people are united in their effort at advancement, and go into it with a whole heart, all the money in the universe will not make a success of anything.—Myrtle (Miss.) Bee.

THE MANUFACTURERS' RECORD is the South's great industrial exponent—"the most widely-quoted industrial paper in the world." No business man interested in the south can afford to do without it (price \$4 a year). *Subscribe now.*

NEW OIL MILL IN MISSISSIPPI—GREENWOOD, MISS., July 17, 1889.—The Planters' Oil Mill Co. is organized and \$50,000 capital paid in. The contract to put up machinery, &c., is let to Callahan & Co., Dayton, O., to be completed October 1, 1889. W. S. Barry is president; T. Staige Marye, secretary and treasurer; H. A. Mallaly, manager. Mill is independent and not in the Trust.

PROJECTED RAILROAD—ABINGDON, VA., July 18, 1889.—A charter has been applied for for "the Chattanooga & Virginia Railroad & Transportation Co." to construct at once a railroad from Kingston, Tenn., to the coal fields in Wise and Russell counties, Va., including from Kingston to Chattanooga a towing and barge company, that will reduce the cost of Virginia coke to the furnaces south of Virginia nearly one-half. Within a week or two the organization will be completed and an engineer put to work.

J. D. IMBODEN.

LOUISVILLE.—Messrs. Hall Brothers & Co. write: "There has been quite a number of inquiries for both coke and charcoal pig iron since our last report, and numerous orders placed for car-loads up to 1,000-ton lots, and in a few cases at prices at a slight advance over last week. Quite a number of offers were refused by some furnaces at prices current. Some of the leading companies have sufficient engagements for the next 60 to 90 days, and are refusing to sell for later deliveries unless they can get 50 to 75 cents advance, which buyers are unwilling to pay. The indication at present is whichever enters the market first (buyers or sellers) will either strengthen or weaken the situation. There is a good demand for Lake Superior charcoal irons in this section and South on account of the very low prices ruling on these metals."

WANTS.

FURNITURE MAN WANTED.—A skilled worker in furniture wanted by the Gadsden Furniture and Coffin Co., at Gadsden, Ala. An experienced man with two to four thousand dollars to put in, can find profitable employment, and will receive large dividends in capital employed.

A COMPETENT MAN is now open for an engagement as Superintendent of Cotton Mill. Has large practical experience. Is strictly temperate, and will guarantee to get as large a production as can be had from the machinery, and at as small cost as any mill. Address "EXPERIENCE," care Manufacturers' Record.

THE OWNERS OF A PATENT SPARK EXTINGUISHER desire a party with money to push sales. It is a perfect success, designed principally for agricultural engines. Small, handy, easily adjusted and so light that a canvasser can carry 25 in a buggy. Sold to limited extent with success last fall, but have not the money to carry on the business largely. Pays an immense profit and presents rare opportunity for moderate amount of money. The season in the cotton belt is about at hand and almost any territory can be secured. Would prefer giving an interest in profits but would sell also. Address INVENTOR, P. O. Drawer 61, Yorkville, S. C.

PROPOSALS.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 6th day of August, 1889, for a clock in the tower of the U. S. postoffice, &c., building at Minneapolis, Minn., in accordance with the drawing and specification, copies of which may be seen at this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. July 15th, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 8th day of August, 1889, for all the labor and materials required to fit in place, complete, a low pressure return circulation steam heating and ventilating apparatus, for the courthouse and post-office, building at Fort Scott, Kansas, in accordance with the drawings and specification, copies of which may be had on application at this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. July 16, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 16th day of August, 1889, for all the labor and materials required for the Approaches to the U. S. Custom House and Post Office building at Fort Scott, Kansas, in accordance with drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. The drawings and specification may also be seen at the Office of the Builders and Traders Exchange at Chicago, Illinois. Each bid must be accompanied by a certified check for \$100.00. JAS. H. WINDRIM, Supervising Architect. July 23d, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 5 o'clock P. M. on the 16th day of August, 1889, for furnishing and putting in place complete the iron roof for the U. S. Custom House building at New Orleans, La., in accordance with the drawings and specification, copies of which may be had on application at this office and the office of the Superintendent. The drawings and specification may be seen at the Mechanics, Dealers & Lumbermen's Exchange, New Orleans, La.; Builders' Exchange, Baltimore, Md., and Cincinnati, O.; Builders & Traders' Exchange, Louisville, Ky., and Mechanics & Traders' Exchange, New York, N. Y. Each bid must be accompanied by a certified check for \$500. JAS. H. WINDRIM, Supervising Architect. July 18, 1889.

PROPOSALS FOR PROVISIONS, CLOTHING AND SMALL STORES FOR NAVY YARD, NEW YORK.—July 9, 1889.—Sealed proposals, endorsed "Proposals for Provisions, &c., to be opened August 2, 1889," will be received at the Bureau of Provisions and Clothing, Navy Department, Washington, D. C., until 11 o'clock A. M., August 2, 1889, and publicly opened immediately thereafter, to furnish and deliver, at the Navy Yard, Brooklyn, New York, a supply of provisions, clothing and all stores, consisting of corn meal, oat meal, rice, flour, hominy, raisins, currants, prunes, cocoa, pickles, beans, canned tomatoes, coffee, sugar, canned vegetables, salt-water soap, pocket-handkerchiefs, jackknives, scissors, razors, razor-straps, scrub-brushes, eagle buttons, coarse combs, agate cups, bowls and plates, ivory buttons, rubber buttons, cotton duck, calf shoes, woolen socks, mattresses, blankets, tin food, watch-caps, cotton socks, candles. The articles must conform to the Navy standard and pass the usual naval inspection. The bids decided by lot. Blank forms of offer and specifications for the several articles required can be obtained upon application to the Commandant of the New York Navy Yard or to the Bureau. Applicants for specifications must designate the particular article for which the same are required. The Department reserves the right to reject any bid not deemed advantageous to the Government. JAMES FULTON, Paymaster General, U. S. Navy.

NOTICE TO CONTRACTORS.—Sheffield, Ala., July 1st, 1889. Sealed proposals will be received at the office of the Sheffield Water Company, Sheffield, Ala., until 3 o'clock P. M. on the 6th day of August, 1889, for the furnishing of materials, tools and labor for the construction of a water-works plant at Sheffield. Plans may be inspected at the office of the undersigned, and copies of the specifications, instructions to bidders and schedule of quantities may be obtained by application to either. Proposals must be made upon the form provided and in strict accordance therewith, and each must be accompanied by a deposit or certified check for five hundred dollars (\$500) as a guarantee that if his proposal be accepted, the successful bidder will enter into a formal contract and will furnish within ten days after written notification a good and sufficient bond for its fulfillment. Checks from unsuccessful bidders will be promptly returned. Proposals will be received on the whole or separate parts of the work only as shown by the forms provided, and bidders are requested to examine the ground. The right is reserved to reject any and all bids. W. L. CHAMBERS, President. J. V. ALLEN, Sec'y and Treas.

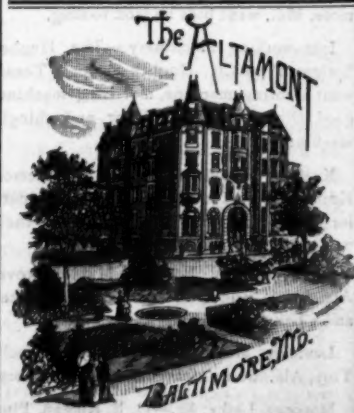
NOTICE TO CONTRACTORS. CHIEF ENGINEER'S OFFICE: GEORGIA, CAROLINA AND NORTHERN RAILWAY COMPANY.

CHESTER, S. C., July 4, 1889. SEALED PROPOSALS addressed to the undersigned, endorsed on outside of envelope "Tender," will be received at this Office until 12 o'clock M. on SATURDAY, the 9th day of July, 1889, for the GRADUATION, MASONRY AND TIES UPON that part of the Georgia, Carolina and Northern Railway lying between Chester, South Carolina, and a point about five miles west of Clinton, South Carolina, being about fifty (50) miles in length. Profiles and specifications can be seen at this office, where printed forms of tender may be obtained. Contractors are requested to bear in mind that tenders will not be considered unless made strictly in compliance with the printed forms. The railway company reserves the right to reject any or all bids. R. H. TEMPLE, Chief Engineer.

FOR SALE.

DARLINGTON LAND IMPROVEMENT CO.

Lots within the incorporate limits of the town of Darlington, and fine farming lands adjacent, for sale. Railroad facilities good. Fine graded school in town. For further particulars apply to J. J. WARD, President and Treasurer of Darlington Land Improvement Co., Darlington, S. C.



ENTIRELY NEW. HOME-LIKE. ELEGANT. HIGHEST ELEVATION ON HANDSOME STREET. American Plan, \$8.00 to \$4.50 per day. Telegraph for Rooms at our expense. C. WARNER STORK, Proprietor.

FOR SALE.**TEN THIRTY-YEAR BONDS**

of the denomination of \$500 each, of the school district of the town of Darlington, in the State of South Carolina. Rate of interest, six per cent., payable annually at the First National Bank, Charleston, S. C. Address C. S. NETTLES, Darlington, S. C.

CAPITAL.

Your attention is directed to this advertisement, because it is what you are looking for. If you desire a profitable investment, investigate the manufacture of

Cast-iron Car Wheels By Machinery.

I have invented machinery and appliances (and patented the same in this country, England and Canada) for making car wheels by machinery, and have demonstrated positively, by experiment, that wheels can be molded by machinery at the rate of one every forty seconds, or 900 per ten hours. I now desire to interest capital to put invention to practical use. With my method I am enabled to save seventy-five per cent. of the cost of the labor required to make cast-iron car wheels, and since the market in 1888 took the enormous quantity of eight million wheels, it is easily to be seen that a concern having the advantage in the market of seventy-five per cent. on cost of labor, besides greater discount and larger quantities of stock used, would be able to dispose of all they could make.

Parties desiring to investigate the above, will please address or call on

GEO. CUNTZ,

21 St. Clement St., Wilkesbarre, Pa.

GEO. T. McWHORTER, President, Chickasaw, Ala.

JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE

Waterloo Land, Mining & Mfg. Co.

of Waterloo, Lauderdale Co., Ala.

will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than to any other town in Alabama. Chickasaw excepted. Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale Counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the state. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

To Manufacturers

Desiring a Staple Article on Royalty or Shop Right. For particulars of the "Landis Patent Steam and Hot Water Radiator" address EZRA F. LANDIS, LA-CASIER, PA.

FOR SALE OR LEASE, LARGE IRON AND BRICK WAREHOUSE, 80x120.

Two stories; Engine and Boiler in place; private R. R. side track; go splendidly for small factory; all new and ready to occupy.

J. A. WALKER, COLUMBUS, GA.

HOME and BUSINESS.

A Modern Dwelling—Cosmopolitan and well arranged—almost newly furnished. Wells of water and convenient outhouses on an elevated and commanding site, with about

Thirty Acres Attainable.

belonging to me individually, and adjacent to the property of a Cotton Manufacturing Concern, in which I have a leading interest (with the chief paying position). Would be sold for value to a steady man of good business qualifications. This desirable home and good business would be parted with in consequence of the death of my wife, leaving me homeless, with a desire to move away.

About \$40,000 are invested in the Manufacturing and Mercantile Business.

The company is incorporated. The product is sold to customers as fast as made. There are over One Hundred Acres of Land, including the Broad Shoals of a Large and Never Failing Stream, on both sides, and naturally one among the prettiest and most desirable places in the Carolinas for a Cotton Factory.

My associates are men of integrity and strict reliability. The business and property are unencumbered. Address

REMUS ROLAND, Care Manufacturers' Record.

Smith, Vaile & Tompkins,

(INCORPORATED)

Charlotte, N.C. Dayton, Ohio.

We are Furnishing all or part of the Machinery for the following New Oil Mills:

Abbeville Oil & Fertilizer Co., Abbeville, S. C., 30 tons capacity.
Charlotte Oil & Fertilizer Co., Charlotte, N. C., 125 tons capacity.
Charlotte Oil & Fertilizer Co., Refinery, 400 barrels capacity.
Capital Oil Co., Baton Rouge, La., 60 tons capacity.
Darlington Gin, Mill & Fertilizer Co., Darlington, S. C., 30 tons capacity.
Eufaula Oil Co., Eufaula, Ala., 30 tons capacity.
Florence Oil & Fertilizer Co., Florence, S. C., 25 tons capacity.
Griffin Oil & Fertilizer Co., Griffin, Ga., 30 tons capacity.
Gate City Oil Co., Atlanta, Ga., 125 tons capacity.
Gate City Oil Co., Refinery, 400 barrels capacity.
Greenwood Oil Co., Greenwood, S. C., 30 tons capacity.
Independent Cotton-Oil Co., New Orleans, La., 60 tons capacity.
Merchants & Planters' Oil Co., Houston, Texas, 125 tons capacity.
Merchants & Planters' Oil Co., Refinery, 400 tons capacity.
Mariboro Oil Co., Bennettsville, S. C., 30 tons capacity.
Marion Oil Co., Marion, S. C., 30 tons capacity.
Oil & Fertilizer Co., Laurens, S. C., 30 tons capacity.
Tarboro Oil Co., Tarboro, N. C., 30 tons capacity.
Union Oil & Fertilizer Co., Union, S. C., 30 tons capacity.

For Information about Oil Mills or Refineries, Address

D. A. TOMPKINS,

CHARLOTTE, N. C.

THE PROPERTY OF THE Statesville Plow Co. FOR RENT

for a term of years at reasonable figures, or the property can be bought on good terms. The property consists of a foundry and machine shops of sufficient capacity to carry on a large and extensive business, also machinery for manufacturing all kinds of farming implements. A good and large work-shop attached. Address STATESVILLE PLOW CO., Statesville, N. C.

FOR SALE.

1 Plate Planer.
1 12-in. Bement Slotter.
1 24-in. Double Lathe, 18 ft. bed; two heads, etc.
1 24-in. Lathe.
1 24-in. Double Driving Wheel Lathe. F. B. Miles make.
1 24x48-in. Planer to plane 18 ft. long, with two heads on cross-rail. Niles make.
1 24x54-in. Planer to plane 30 ft. long, with two heads on cross-rail. Niles make. Address

NILES TOOL WORKS, HAMILTON, OHIO.

Sulphur Mine FOR SALE.

The Louisiana Sulphur Mining Company offers for sale its sulphur property in Calcasieu parish, 80 miles west of New Orleans on the line of the Morgan Railway.

Repeated borings have demonstrated the existence of 412 feet under the surface of a very large bed of sulphur, 113 feet thick, ranging in purity from 82 to 90 per cent., averaging through the whole depth 77 per cent.

For further particulars apply to

LOUIS BUSH, ESQ., President,

17 Tchoupitoulas Street, New Orleans, La.

Ferro-Magnesian SPRINGS FOR SALE.

Under a decree of the Circuit Court of Botetourt county, Va., the undersigned Commissioners will offer for sale privately, until Sept. 9th, 1899, and if not sold before that date, will then sell at public auction to the highest bidder, at Fincastle, Va., the above named

VALUABLE Mineral Springs,

situated one-half mile from Fincastle, Va., and consisting of one already developed and enclosed spring, and any other springs hereafter developed on that property.

This spring, for the medicinal virtue of its waters, has an

ESTABLISHED REPUTATION.

Geo. E. Walton, M. D., author Mineral Waters, U. S. and Canada, Membre de la Société Française d'Hygiène, etc., says: "I do not know of its equal of the kind (an alkaline and aperient chalybeate) in the United States, or in the world."

AS A SUMMER RESORT

This place has no equal in the mountains of Virginia.

THE HOTELS

Are crowded every summer, and many board in private families for want of other accommodations. A large hotel would be full every season.

For terms and further information, address either of the commissioners at Fincastle, Botetourt County, Va.

C. M. LUNSFORD,

C. H. VINES,

ROBERT G. JAMES,

July 8th, 1899.

Commissioners.

FOR SALE.**Soap, Candle & Oil Works, Plant and Business.****Established 1848.**

Warehouse, Houses and Outfit Complete, all in good repair.

A Fine Opportunity to secure a splendid paying and well established business in one of the best located cities in the South.

Address, for full particulars,

F. FABELS' SONS,

P. O. BOX 104,

LOUISVILLE, KY.

BRADLEY'S POWER HAMMERS

The BEST in the World run by Belt

OVER 1500 IN USE

BRADLEY'S HEATING FORGES

Indispensable in all shops to keep BRADLEY'S CUSHIONED HAMMERS and men fully employed and reduce the cost of production.

BRADLEY'S HEATING FORGES, BRADLEY & CO. SYRACUSE, N.Y.

63 Murray St. NEW YORK; 60 Bedford St. BOSTON, MASS.

Eastern Lumber Markets.

[Special correspondence MANUFACTURERS' RECORD.]

NEW YORK, July 24, 1889

Business in lumber has materially fallen off during the past few days, first on account of the heat, and second, on account of the absence of a good many people from the city, who, when here, help to make business go. The heavy building operations are, of course, going on, no matter who comes or goes, and the only noticeable difference is a lack of that little hand-to-mouth dealing that characterizes the actions of retailers and commission men. A good many of these are away at present.

Speaking of the lumber trade generally, we must only repeat what has often been said before within the past few months, that there is an enormous consumption going on in this city and the vast amount of territory reached by its dealers. The shipments to out-of-town dealers are the largest of the season. The consumption in towns and cities within 60 to 100 miles is very large. The architects who have been superintending the construction of all the fine residences in that region of country have taken the liberty always accorded to them of specifying the kinds of lumber to be used, and they have suggested the use of a great variety. This explains the statements made by many of our retail dealers, that they have been called upon this year for a greater variety of hardwoods and rare woods than they ever sold before.

A very interesting paragraph could be written on this topic, but it applies to architecture rather than to business. Reference is made to it only to show that hardwoods are being much more used than formerly.

A great deal of Michigan pine has been coming down the river for distribution in Jersey City, Brooklyn, and on Long Island points. A great deal of pine has also been finding its way to New England. This active demand has prevented or rather arrested, for the time being, a little weakness that has been hovering around the market. Common No. 1 is selling in this market at \$24; No. 2 \$20; cutting up, No. 1, ranges from \$28 to \$30 for 1-inch stock, and No. 2 \$23. Fine common, 1-inch, is \$36 to \$38; 3 to 4-inch stock, \$10 more. Selects, 1 inch, \$40; 3 to 4 inches, \$10 more. Uppers barely hold their own at \$46 to \$48 for 1-inch. Box stuff is worth about \$15 for 1-inch; ceiling base, No. 1, \$50; shelving, No. 1, \$30; molding No. 1, \$36.

The export trade is good one week and bad the next. We manage to get rid of a million or two feet every week, at least. A good deal of the stuff is going to Cuba and Brazil.

The manufacturers of yellow pine are managing their interests in this and other Northern markets with a good deal of ability. Some lumber papers describe the trade as booming, and in a certain sense that is true; but this does not mean that double the quantity of yellow pine or North Carolina sap could be as readily sold and at as good prices. The trade is booming because the business is properly managed. Places are found for lumber before, or as soon as it comes; or, to speak more correctly, the new stuff takes the place of the old stuff, and moves along in that way. There is, of course, always a good deal of yellow pine stuff in yards ready for buyers. The North Carolina people are attending to their own business, hunting up trade, finding its wants, and meeting them. The sales of sap pine from that State during the past three months have run away ahead of the anticipations of its most sanguine friends. This is due, or at least partly due, to the fact that the manufacturers have taken the business into their own hands, and are here on

their ground. The buyers like the stuff, and it is better prepared than it was a year or so ago. It is going into markets that a year ago would not touch it. It has new markets yet to enter; the mills in that State are making an excellent record, and there are very few probabilities of the business being overdone.

The hemlock men are as busy as bees. The recaptured logs will be sawed as soon as machinery can be put up. Joists sell here at \$12 to \$12.50, some few lots at \$13.00.

The demand for quartered oak, considering all things, is good. Quartered oak is a lumber which cannot be suddenly disposed of at outside figures, but there is a certain demand for it, which will be met. Boards are selling at \$49 to \$50.

The poplar market is under pretty good control, and it would not be surprising to see poplar move up a little. There are not many who talk that way, but those who do, understand the situation pretty well. The future course of the poplar market depends largely upon whether those contemplating shipping large stocks here within the coming 60 days do so. Some have bought high, and are compelled to sell low or not at all. They are running around asking advice as to whether to hold on or not.

Plain oak is in abundant supply, but is not selling at shaded prices. Cherry logs are selling well for first-class stock.

Walnut is a lumber that at this season of the year cannot be sold unless the seller is willing to take the bottom market prices; shippers understand this, and are not throwing much on the market.

Ash is holding its own under a good demand, maintained by a large number of small buyers. Furniture manufacturers are picking up a little stuff occasionally.

We have some very good word from Boston. Business there is said to be good.

We have some of the finest lumber yards on the continent in this city, and there is a spirit of rivalry among the yard men to make good appearances.

The business operations of the last half of the year will considerably exceed those of the first half.

W. EDWIN PEREGOY & CO.

WHOLESALE AND COMMISSION

LUMBER, LOGS AND STAVES,

113 S. GAY STREET,

P. O. Box 433. BALTIMORE, MD.

A. C. DANNER,

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Yellow Pine Flooring and Ceiling,

Stepping, Finishing, Docking, Car Sills,

And all kinds of Rough or Dressed Yellow Pine.

THOMAS J. SHRYOCK & CO.

YELLOW PINE COMMISSION MERCHANTS.

Correspondence Solicited.

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FOR SALE.

WOOD-WORKING MACHINERY, full line, with latest improvements. Write for circulars and price-list. BENTEL, MARGEDANT & CO., HAMILTON, OHIO.

FOR SALE.

One J. A. Fay & Co. No. 8 "Lightning" Floorer. One J. A. Fay & Co. Self-feed Railway Cross-cut saw, almost new. One Huyett & Smith Double Exhaust Fan. One Egan Co. 36 in. Double Drum Sander, almost new. One Egan Co. late style Wheel Boxer. One 50 in. x 10 one-half Taper Sleeve Friction Clutch Pulley. One Egan Co. 6 in. four-sided Molder. All these machines have been thoroughly overhauled, and are guaranteed to be practically as good as new. Some of them have been used less than six months.

CORDESMAN MACHINE CO.

27 Butler Street, Cincinnati, O.

THE CROWDUS Electric Fare Box.

The only perfect light at night. Simplest in construction. Easiest to clean. Registers each fare. Increases earnings. Exposes frauds. The smallest and neatest. Write for catalogue "B."

Electric Fare Box Co. NASHVILLE, TENN.

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HARDWOOD COMMISSION MERCHANTS.

Correspondence Solicited.

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Phoenix Incandescent Lamp Co. CHICAGO, ILL.

The Highest Quality.

The Lowest Price.

Can be used for any Electric Light System.

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BATTERY &

LAMPS.

Write for Circular and Price List before buying elsewhere.

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The Scovel & Irwin Construction Co. OF BIRMINGHAM, ALA.

Address all correspondence to the Branch Office,

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General Engineers and Contractors

For the Design and Construction of

Water Works, Sewerage Systems, Railroads,

BONDS, STOCKS, MORTGAGES, AND OTHER SECURITIES NEGOTIATED.

Suburban Roads, Blast Furnaces, Fuel Gas Plants.

JOYCE, CRIDLAND & CO. DAYTON, O.

MANUFACTURERS OF

J. O. Joyce's Patent Lever Jacks,

COMPOUND LEVER AND SCREW JACKS, And Bench Vises.

50 varieties of Lever and Screw Jacks for railroad use. Please send for illustrated catalogue.



\$80 will buy the best BAND SAW in the world. \$100 will buy our new PATENT 40-inch BAND SAW. \$185 will buy our new PATENT BAND RESAWING MACHINE. \$125 will buy the best AUTOMATIC RIP SAWING MACHINE, weatherboarding attachments included, and one 12-inch RIP SAW.

For further particulars address STANDARD MFG. CO. Moore's Hill, Ind.

Pulleys, Shafting, &c.

Self-Oiling Hangers.

Latest Designs. Correct Proportions. LARGE STOCKS ON HAND FOR IMMEDIATE SHIPMENT.



Improved Clamp Couplings, fastened or loosened by twisting a single screw. GIANT GRIP.

My Catalogue "C" contains useful information regarding speed, power, &c. Send for it.



Lathes for the Million.

Improved Twist Machines.—One set of cutters will make 800 different kinds of twist.

Corner Block Machines.—25 perfect blocks a minute. No sandpapering. Worked by a boy. Make money from your waste lumber.

Bung Machines.—120,000 perfect bungs cut and compressed in 10 hours. Only one operator. These and many more

MONEY-MAKING MACHINES described in my Catalogue "A."

Sent free to those who name this paper.

P. PRYBIL, 467 W. 40th St., N. Y. City.

Bargains in Machine Tools

We have the following Machine Tools, taken mainly in exchange for those of our own manufacture. We will sell them low.

LATHES.

- 1 12x15 Star Hand Lathe. New.
- 1 17x25 New Haven Lathe. Good Order.
- 1 17x25 Putnam Lathe. Good Order.
- 1 18x10 N. Y. S. Engine Co. Lathe. Good Order.
- 1 18x16 Gray Lathes. Good Order.
- 1 18x16 New Haven Lathe. Good Order.
- 1 18x16 George Baker Lathe. Good Order.
- 1 20x25 Ames Lathe. Good Order.
- 1 20x25 L. W. Pond Lathe. Good Order.
- 1 20x25 Conway Lathe. Good Order.
- 1 20x10 Ames Lathe. Good Order.
- 1 20x10 Fildell Lathe. New.
- 1 20x15 Gray Lathe. Good Order.
- 1 22x22 Niles Shafing Lathe, with chuck and 33 tool shafting rest and shaft straightener Good Order.
- 1 22x15 Stover Lathe. Good Order.
- 1 22x15 Wood & Light Lathes. Good Order.
- 1 22x30 Wood and L. Lathe. Good Order.
- 1 30x18 New Haven Lathe. Good Order.

PLANERS.

- 1 12-in. W. & L. Shaper Traveling Head. Good Order.
- 1 10-in. New Haven Shaper. Good Order.
- 1 15-in. Hendey Shaper. Good Order.
- 1 24-in. Hendey Shaper. Good Order.
- 1 12-in. Crank, N. Y. S. Eng. Co. Good Order.
- 1 Planer 21x22x4. Good Order.
- 1 Planer 26x26x7 Putnam. Good Order.
- 1 Planer 18x24x8. Good Order.
- 1 36x36x8 Stevens Planer. Good Order.
- 1 36 x 36x12 New Haven Planer. Good Order.
- 1 36x36x12 Farrel Planer. Good Order.
- 1 39x36x12 Enterprise Planer.

MISCELLANEOUS.

- 20-in. Lever Feed Blaisdell.
- 20-in. S. H. Blaisdell Drill.
- 20-in. S. H. Lathe and Morse Drill.
- 24-in. Blaisdell Drill.
- 32-in. Blaisdell Drill.
- 36-in. B. G. Drill.
- 60-in. H. & J. Radial Drill.
- 60-in. Horizontal Boring Machines.
- 2 1/2-in. Hyde Cutting-off Machine.
- No. 3 C. & C. Pipe Cutter.
- 24-in. Gear Cutter.
- No. 4 Garvin Miller. New.
- No. 4 Garvin Miller with B. G. New.
- Single Punch and Shears, 3/4 hole and 3/8 iron.
- Double Punch and Shears, 3/4 hole and 3/8 iron.
- Write for Price.
- New additions constantly made to this list.
- Complete estimates made on outfits.

LODGE, DAVIS & CO.

Cincinnati, Ohio.

Manufacturers of Engine Lathes, Shapers, Upright Drills, etc. Dealers in Iron and Brass Working Machinery.

Oil Mill Machinery FOR SALE.

One Van Winkle Press and Pump.
Two Boomer Presses.

For particulars, write to

TARBORO OIL MILLS, Tarboro, N. C.

Let us know what you want.
We can save you some money.

NEW AND SECOND HAND MACHINERY, OF EVERY DESCRIPTION.

ADDRESS

HUBBARD & CO., 86 Nassau St., New York.**FOR SALE.**

One 100-Barrel ROLLER PROCESS

Flour and Grist Mill.

Nearly new. River and railroad transportation; cheap fuel; home market; first-class neighborhood. Reasonable price and terms. Correspondence solicited. Satisfactory reasons for selling. Address J. G. W. TOMPKINS, Cedar Grove, Kanawha Co., W. Va.

For Sale.**BOILERS.**

41 Second-Hand and 23 New Boilers,
13 Second-Hand and 19 New
ENGINES.

At buyers' prices. Address
CASEY BOILER MFG. CO. Chattanooga, Tenn.

3 New Marine Steel Boilers,

ONE HUNDRED AND FIFTY HORSE-POWER EACH, CAN BE USED TOGETHER IN ONE BATTERY OR SEPARATELY; NOW STORED AT APALACHICOLA, FLA. For terms, address

The FILER & STOWELL COMPANY,
MILWAUKEE, WIS.

FOR SALE.**A NEW 100 HORSE-POWER AUTOMATIC CUT-OFF ENGINE, at a Low Price.**

Also a 100 horse power SLIDE VALVE ENGINE that has been in use 18 months, but is in most excellent running order. Can be seen running for a month. Will be sold at one-half its cost. Apply to

RICHMOND MACHINE WORKS,

RICHMOND, IND.

FOR SALE.

12-ton ice plant (Pictet) all complete and in first-class order, can be had at one-third cost, and been in use only one year. For particulars inquire of

SO. FLORIDA FOUNDRY & MACHINE CO.,
ORLANDO, FLA.

FOR SALE CHEAP.

One BEMENT PLANER, 42x42" x17 feet. Two heads on beam with power feeds. One Side Head with hand feed. Beam has vertical automatic feed.

One SELLERS PLANER, 38"x36" x8 feet. Two heads on beam with power feed. One PRATT & WHITNEY PLANER, 20"x20"x5 feet. The above being replaced with Open Side Planers. Address

DETTRICK & HARVEY, Baltimore, Md.**SECOND-HAND MACHINERY.**

- 1 Iron Planer, planes 22 feet, 48x48, double heads.
- 1 " " " 6 " 26x24.
- 1 " " " 4 " 22x30 in.
- 1 " " " 3 " 19x16, New Haven.
- and other sizes also.
- 1 Engine Lathe, 16 feet bed, 23 inch swing.
- 1 " " " 16 " " 24 " " friction feed
- 1 " " " 31 " " 19 " "
- 1 " " " 3 " " 25 " "
- and various other sizes.
- 1 20 inch Plain Drilling Machine.
- 1 25 " " " " " "
- 1 28 R. G. & S. F. " " " "
- 1 9 in. Hewes & Phillips Shaping Machine.
- 1 No. 3 Brown & Sharp Screw Machine.
- 1 14 inch Freehand Slotter.
- 1 Small 6 inch swing Foot Lathe.
- 1 No. 3 Parker Press. 1 Arch Press for forming.
- Send for list Second-hand tools.

NEW YORK MACHINERY DEPOT,
Brooklyn Bridge Store, 16, New York.

BARCAINS.

Second Hand Machinery, Good Condition.

L. F. SEYFERT.

- 437, 439 and 441 N. Third Street, Philadelphia, Pa.
- 1 100 h.p. Horizontal Engine, cyl. 18"x24".
- 1 40 h.p. High-Speed Engine, cylinder 10 1/2"x16".
- 1 20 h.p. Stokes & Parrish Elevator Engine.
- 1 15 h.p. New York Safety Engine.
- 30 Engines, 4 to 30 h.p., for and Ver. best makes.
- 3 Portable Hoisting Engines, 6 to 15 h.p.
- 1 6 h.p. Frick Portable Engine and Boiler.
- Rumblers, Foundry Lathes, Jacket Kettles, etc.
- 1 45 h.p. Erie, R. T. Boiler, 48"x16", 51 3/4" tubes.
- 1 18 h.p. R. T. Boiler, 36"x9", 26 3/4" tubes.
- 1 35 h.p. Locomotive Boiler.
- 50 Upright Steel Tubular Boilers; new; 4-27 h.p.; cheap
- 1 Phillips Engine Lathe, 50"x14".
- 1 Engine Lathe, 36"x20".
- 1 Engine Lathe, 26"x13".
- 1 Bishop Engine Lathe, 24"x20".
- 30 Screw-cutting and Speed Lathes, 10-30 swing 24-10.
- 1 Whitcomb & Co. Planer, 24"x24"x7 1/4".
- 1 Bishop Planer, 31"x24"x7 1/4". 318"x18"x3".
- 1 Lodge, Davis & Co. 25" Drill Press, B. G. and P. F.
- 1 Lodge, Davis & Co. 21" Drill Presses.
- 13 Drill Presses, from 12" to 22" swing, best makes.
- 1 Combined Punch and Shear, 3/4 in. hole in 1/2 in. iron.
- 1 14" Schenck Planer, Moulder and Matcher.
- 1 24 Goodell & Walters Double Surface, endless bed.
- 6 Pony Planers and Surfacters, all sizes.
- 5 Muley Saws, complete. 2 Upright Moulders.
- 1 Worthington Duplex Steam Pump cap, 150 gal. min.
- Shafing, Pulleys, Hangers, Couplings, Belting, etc.
- Also full line of new machinery. Estimates furnished on application for Steam Plants and Mill Outfits. Please write for prices.

Second-hand Machinery in Good Order**FOR SALE CHEAP.**

- Engine Lathes—26 in. x 30 ft.; 26 in. x 17 ft.; 42 in. x 12 ft.; 30 in. x 12 ft.; 26 in. x 15 ft.; 24 in. x 10 ft.; 22 in. x 8, 10 and 12 ft.; 20 in. x 8 and 12 ft.; 15 in. x 6 and 8 ft.; 1 each 24 in. x 20 in. and 24 ft.; 24 in. x 12 ft.; 24 in. x 15 and 16 ft.; 18 in. x 10 ft.; 20 in. x 10 ft.; 20 in. x 12 ft.; 1 each 16 in. x 6, 8 and 10 ft.; 2 each 12 in. x 6 ft.; 12 in. x 5 ft.; 2 each 11 in. x 4 ft. and 4 ft.; 1-10 in. x 3 1/2 ft. foot power.
- 4 Brass Turret Lathes, assorted sizes.
- 1 each Planer, 24 in. x 24 in. x 5 and 8 ft.
- 1 " " 30 in. x 30 in. x 8 ft.
- 1 Planer, 34 in. x 30 in. x 12 ft. 30 in. x 17 ft.
- 1 " 40 in. x 40 in. x 14 ft.
- 1 " 48 in. x 48 in. x 10 and 12 ft.
- 1 " 22 in. x 20 in. x 4 and 5 ft.
- 1 " 16 in. x 16 in. x 3 ft.
- Screw Planer, 18 in. x 3 ft.
- 1 Engine Lathe, 22x22 feet, good order. Niles.
- 1 12" Trav. H'd Shaper, 2 tables, almost new. Betts.
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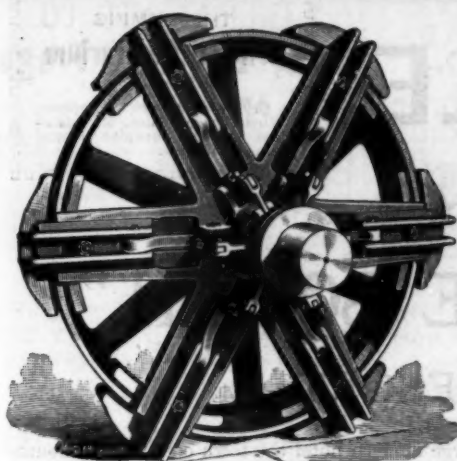
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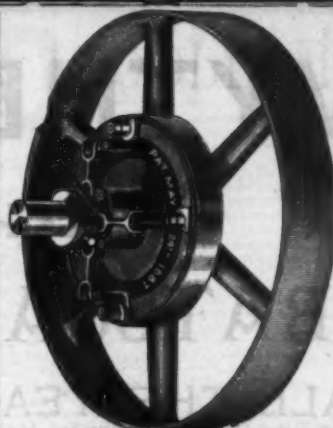
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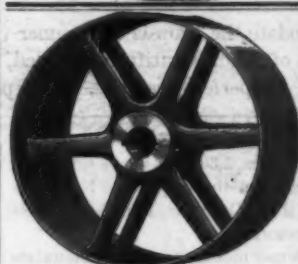
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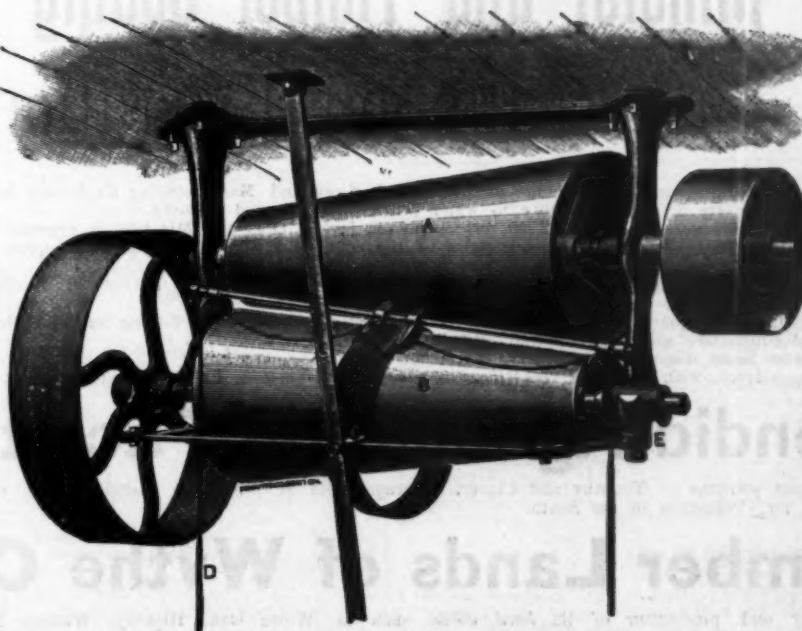
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Dry Atmosphere, Tempered
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With its present capacity cannot accommodate the crowds of summer visitors. Hence, to secure a large modern hotel the town council will donate a site containing ten acres of land, beautifully situated, with commanding views of surrounding mountains, and perfect drainage, to any person who will build one.

The town is situated on the summit of the Alleghanies, 2,300 feet above tidewater, 133 miles from Lynchburg, 71 from Bristol, Tenn., and on the line of the Norfolk & Western Railroad, midway between New York and New Orleans. Population 3,000. No better place situated for a summer and winter resort.

Its air is pure and invigorating. During the summer months a pleasant mountain breeze cools the heat of midday, and a blanket is requisite for comfort during the night. It is recommended by eminent physicians to those suffering with consumption, catarrh, dyspepsia, nervous prostration and insomnia.

It is beautifully laid off in squares, with wide streets, many of which are macadamized and adorned with spacious yards. It is the center of a network of country roads, all affording delightful drives for health and recreation. It is situated in the famous blue grass region, and the grass is of spontaneous growth.

It contains an ever-flowing fountain of excellent alum-chalybeate water on Main street, especially recommended for dyspeptics and delicate ladies and feeble children, free to all. Within a few miles is the celebrated Cove Lithia Springs, specially noted for its curative powers. Limestone and Freestone Water can be had in abundance.

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Unexcelled for the character, quality and production of its hard woods, such as White Oak, Hickory, Walnut, Poplar, Pine, Hemlock and Ash.

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We are in the center of a most magnificent timber region. Wood of all kinds in abundance, and the best facilities for transporting to the mill and from the mill to market.

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To Those Looking —FOR— Manufacturing Sites IN THE SOUTH.

The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills and nail works, glass works, cotton or woolen mills, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; cheap iron from the furnaces at Lynchburg, Roanoke, Radford, (to be built in 1889,) Pulaski and Ivanhoe; cheap coal and coke from the celebrated Pocahontas Flat Top field; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories, at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development in iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials, and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. POPE, General Freight Agent, Roanoke, Va., or to

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DANVILLE, VA.

The City of Danville lies in Pittsylvania county, Virginia. It is picturesquely situated on the South bank of the River Dan, about 64 miles above the town of Clarksville (where the Dan and Staunton rivers form the Roanoke) under which name the blended currents flow in broad, majestic streams through the fertile plains and stately forests of Eastern North Carolina, until lost forever in the briny expanse of Atlantic sound and the boundless West Atlantic.

The city occupies the central concave portion of a graceful horseshoe curve of the river, which at this point is broad and shallow, broken into musical rapids by the bed of uneven granite rocks, over and among which it leaps and sparkles and sighs, as it carries its message of greeting from the mountains to the sea.

On the north side of the river, and facing Danville, stands her charming daughter, North Danville. The river banks on either side rise gently from the water's edge, until a height of a 150 feet or more has been reached. Three bridges, half a mile apart, span the stream, affording ample means of communication between the opposite shores and adding immeasurably to the natural beauty of the scene. The lower of these bridges is the property of the Richmond & Danville Railroad Co., the other two are wagon and foot bridges and both free.

The city covers an area of about 1,200 acres. Its population in 1880, according to the census returns, was 7,500; in 1889 it is about 16,000.

Danville is distant 65 miles from Lynchburg, 140 from Richmond, 220 from Norfolk and 245 from Washington. Its elevation above tide-water ranges from 410 feet at river's edge to 580 at West Main street terminus. Between Danville and Clarksville the entire fall is 148.57 feet, or an average of 2.17 feet to the mile, the maximum slope of the rapids being 10 feet to the mile.

In 1880-81, Mr. J. H. Gill, assistant engineer, made an official report to the War Department, from which the following is an extract:

"Danville is a town of 7,500 inhabitants. Situated at Danville Falls. Its resources of water-power for manufacturing are very great, but this power is utilized to but a slight extent, the greater part of the business energy of the place being concentrated in the tobacco trade and manufacture, that staple being the principal one of the country tributary to Danville. There are 25 manufacturing establishments of twist and plug tobacco, three stripping and stemming houses and 73 reaping and broom houses.

The improvement of the town in 5 years is shown by the following returns:

Population in 1873, 5,130; in 1878, 7,500.

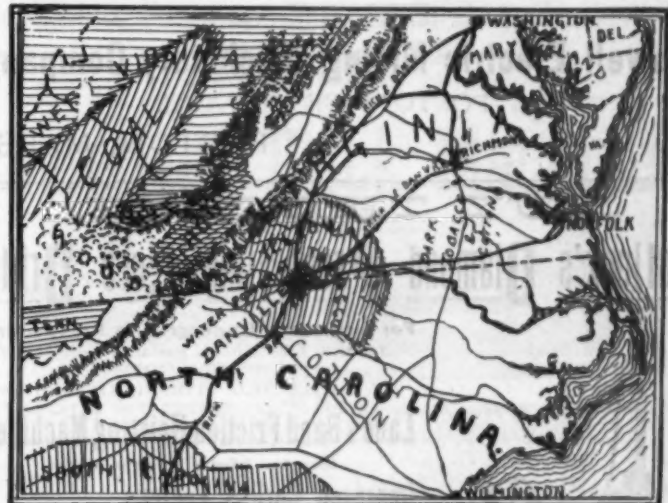
Real Estate Assessed Value,

in 1873, \$1,937,375; 1878, \$3,340,000.

There are two grain mills, a foundry and machine shop, a planing mill and a door and sash factory. The Richmond & Danville Railroad runs through the town, and the Virginia Midland Railway terminates there. Two narrow-gauge roads are projected from this point, one to run up the valley of the Dan, the other into Henry county.

A free bridge connects the town with the small village of North Danville, and another wagon bridge is in construction near the west end of the town.

The above report describes Danville very fairly as she was 10 years ago, but in that interval she has grown and improved at a rate seldom surpassed. The narrow-gauge railroads "projected" then have become accomplished facts, and a source of much comfort and benefit to Danville and the country it penetrates. The "small village" of North Danville has expanded into a full-blown town, with its own mayor and common council. And the "wagon bridge," then in course of construction, has now done nine years' good service, while a handsome iron bridge has replaced the other one of these in use at that time, and both of these bridges belong to the city, and three splendid cotton factories, two grain mills, box factory, ice factory, electric-light machinery, &c. are now in full blast, and run by water-power, where there was but one machine shop and one mill in 1860.



MAP SHOWING LOCATION OF DANVILLE, VA.

The scenery around Danville presents a charming and endless variety of hill and valley, field and forest, natural beauty and artistic embellishment, while everywhere are to be seen unmistakable tokens of thrift and industry, energy and enterprise.

In general appearance, the town of Danville is unique in its exceeding attractiveness. Its public buildings, churches, colleges, hotels, mills and factories are mostly new and all handsome and substantial. Its residences are the perfection of neatness and refined taste. Its principal streets are wide, well paved and well shaded with ornamental trees; moreover, during the busy seasons the sidewalks are so thronged with well-dressed, prosperous-looking country men and women, and the road-ways so crowded with carriages and wagons drawn by sleek, well-fed and high-bred horses, that locomotion is seriously obstructed for the time being. Its merchants, manufacturers and professional practitioners are for the most part young, active and intelligent to a degree rarely seen in the great commercial cities of the North and West. The railroad facilities are also excellent.

The Richmond & Danville Road gives connection with all the great systems North and South. The Virginia Midland runs to Lynchburg, where connections can be made to all points West, North and East. The Danville & New River (narrow gauge) Railroad runs to Patrick C. H., and has a branch line to Leesville, N. C. The Virginia Midland is a branch which runs to Rocky Mount and Franklin county, and a daily train to Danville, and the Atlantic & Danville is now laying the rails on its road, with over 100 miles completed, making direct from Norfolk to Danville. This railroad is pushing for the coal beds of Southwest Virginia, and when carried through to Bristol, as is contemplated, will make Danville exactly in the center of a direct line from that point to Norfolk. It must be apparent to every unprejudiced mind, that with the completion of this road, Danville will rise in commercial importance, and by reason of her situation and immense back country is destined to grow in the next decade immensely larger than she now is.

Tobacco, Danville's great staple, and its manufacture, her great industry hitherto, will doubtless continue to hold its place as foremost among her sources of wealth and prosperity. It may suffice to say here that this is the largest bright and fine loose leaf tobacco market in the world, being the center of the "bright belt," and handling more than half of its gross product. There are nearly two hundred handsome buildings in the city devoted to the curing, stripping, pricing and otherwise handling the golden leaf and to manufacturing it into the various forms of plug and twist.

Danville can boast of seven banking establishments, all of which are in a healthy financial condition, and are ready at all times to render material aid to progressive commercial operations.

REMEMBER

That Danville has a most Healthful Climate.

That there is no Competition at all in Certain Lines of Business.

That Money is made here.

That the people are Sociable, Energetic and want MANUFACTURING ENTERPRISE.

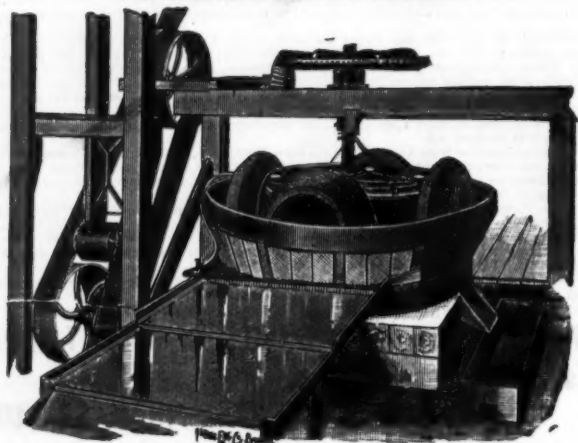
That Abundance of Hardwoods, suitable for Wagons, Agricultural Implements are to be found in forests adjacent.

For further information address

Danville Industrial & Land Improvement Co.

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WISWELL Ore Pulverizer and Amalgamator COMBINED.



The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of Stone Breakers and Ore Crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saving machine I have ever seen. Please accept congratulations for your success.

S. L. MARSDEN.

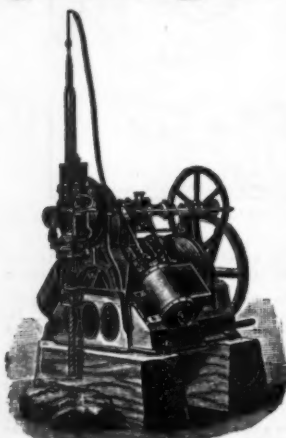
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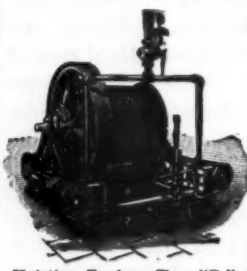


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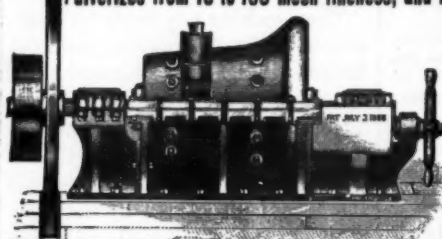
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Send for samples of different products.

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Gates Rock and Ore Breaker

CAPACITY IN TONS OF 2,000 POUNDS.

Size 0—2 to 4 tons per hour	Size 4—15 to 30 tons per hour
" 1—4 to 8 "	" 5—25 to 40 "
" 2—6 to 12 "	" 6—30 to 50 "
" 3—10 to 20 "	" 7—40 to 75 "
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Passing 2 1/2 in. ring, according to character and hardness of material.

Great SAVING IN POWER. Adjustable to any Degree of Fineness.

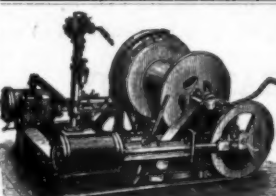
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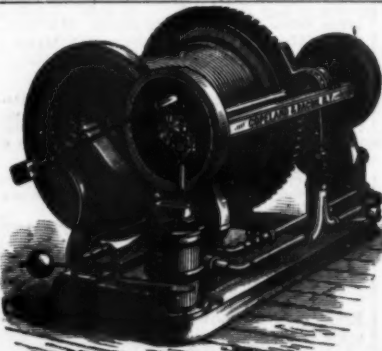
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FURNACE HOISTS,
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DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c.
Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine
Railways, Clay Temperers. Send for Catalogue.

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GAYSPORT FOUNDRY, HOLLIDAYSBURG, PA.

Blast Furnace, Rolling Mill and Heavy Castings and Machinery for all purposes.

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Complete Plants for washing HEMATITE ORES at Least Cost.

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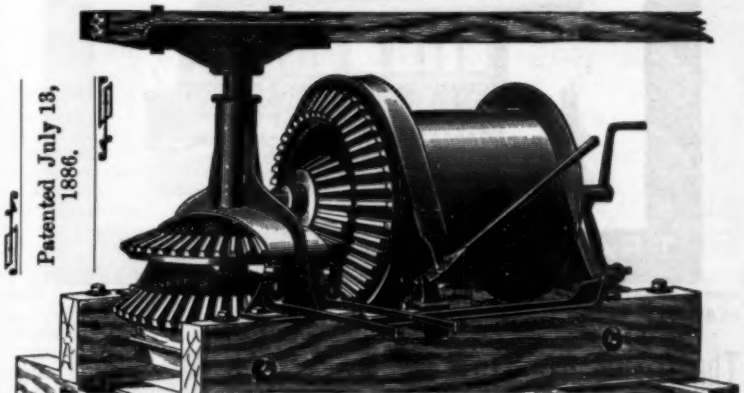
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THE CONTRACTORS' PLANT MANFG. CO.

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AN IMPROVED HORSE POWER HOISTING MACHINE, with a combination of fast and slow speed. With fast speed a horse will lift 1,000 to 1,500 lbs. on a single line at a speed of 60 feet per minute, and with a single block 3,000 lbs. 40 feet per minute. With the slow speed a weight of 1/4 tons with a single line, and with a single block 3 tons; with two single blocks 5 tons; with double and single blocks 7 tons. The speed single line 30 feet per minute, with single block 15 feet per minute. In this combination of gears the user has the advantage of two machines embraced in one, with a saving of 25 per cent. in cost and 60 per cent. in weight.

SIMPLE, DOES NOT GET OUT OF ORDER.

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For Bridge Builders, Contractors, Quarrymen, Mineral and Coal
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WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

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Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference

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Both Horse and Steam Machines.

PUG MILLS, MOLD SANDING MACHINES, MOLDS, BARROWS, AND ALL BRICKMAKERS' SUPPLIES.



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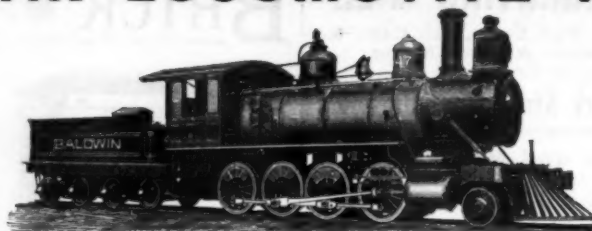
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Adapted to every variety of service, and built accurately to standard gauges and templates.

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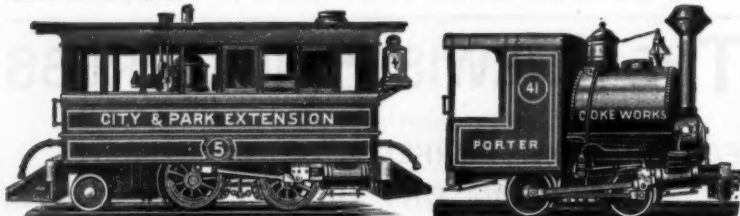
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THESE CUTS CHANGED EACH INSERTION.

ALL WORK STEEL FITTED and built to duplicate system. EXTRA PARTS kept in Stock. MEMORANDUM.—LOCOMOTIVES AND MOTORS of several sizes, wide and narrow gauge kept on hand for immediate shipment, or under construction for quick shipment. Illustrated Catalogue, Photographs, Prices, &c., on application, mentioning this paper.

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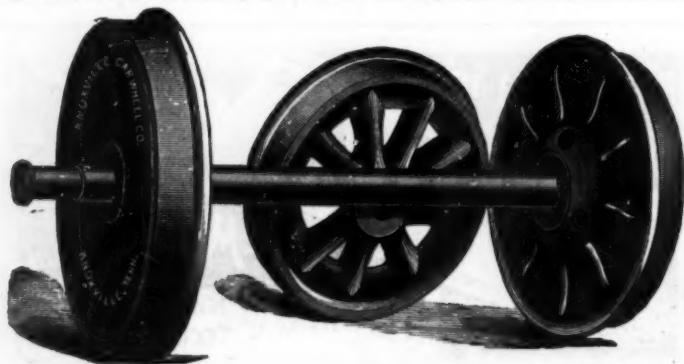
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Manufacturers of All Kinds of

CHILLED WHEELS

For Railroads, Street Railroad. Ore and Coal Mines, and Lumbermen.



Steam Hammers,
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Derricks, Crabs,
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Steel and Iron Boilers,
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Heavy Castings a specialty.
Wheels mounted on Axles if
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STEEL RAILS**PENNSYLVANIA**Standard Sections
Light Sections
Street RailsFish Plates,
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SALES AGENT

16 lbs. Full Size.

STEEL COMPANY

50 to 80 lbs. per yard

16 " 45 " " "

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Bolts & Nuts,
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Manufacturer of **HAND AND POWER CRANES,**

For Forges, Pipe Foundries, Rolling Mills, Wire Works, Foundries, Machine Shops, Pools and Mines. Locomotive and Pivot Cranes and Overhead Traveling Cranes.

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STEEL CASTINGS

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequal strength. Stronger and more durable than iron forgings in any position or for any service whatever. 40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for circulars and prices to

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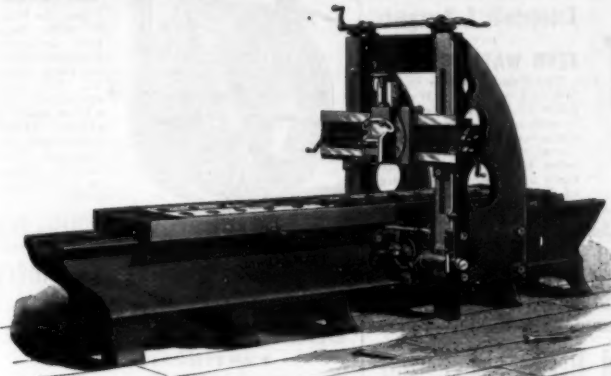
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Strictly First-Class. Moderate Prices. Perfection of Workmanship.

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Large Bearings. The Smoothest Running Planers.

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**MACHINE AND CAR BOLTS,
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MADE IN SOLID DIES.
COLD PUNCHED, CHAMFERED, TRIMMED &
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Bridge Rivets, WASHERS,
Split and Tank and Coopers'
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THE BILLINGS	& SPENCER CO.
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MANUFACTURERS OF	SCREW PLATES AND
DIES MADE IN 5	SIZES CUTTING
THREADS FROM	1/8 OF AN INCH
TO 2 INCHES V	THREAD. ALSO
U.S. STANDARD AND	WHITWORTH THREAD
DROP FORGED	OF BAR STEEL.

ESTABLISHED 1832 ON PRESENT PREMISES.

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BUY OUR
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Perfect Oils

The above are our specialties in **MACHINERY OILS**, and are the best oils for the price manufactured. We can give you anything in the **OIL LINE**, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS,
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Build & Repair Your Machinery



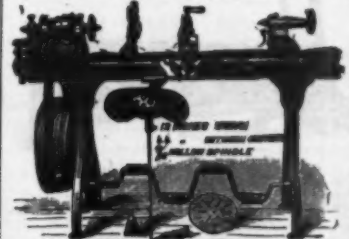
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Engine Lathes, Planers,
Chucking Lathes, Hand Lathes,

MACHINE TOOLS GENERALLY

MANUFACTURED BY
LATHE & MORSETOOL CO.

Worcester, Mass., U. S. A.

Barnes' Patent Foot Power Machinery.



Complete outfit for Actual Workshop Business. Lathes for Wood or Metal. Circular Saws, Scroll Saws, Formers, Mortises, Tenoners, Etc., Etc.
Our Patent Velocipede Foot-Power is without question the best yet applied to Lathes. Read a few expressions from those using them: "I do not see how your lathes can be produced at so low cost." "The velocipede foot-power is simply elegant." "Can turn a whole day, and feel as hale and hearty as though only walking around." "In regard to the velocipede foot-power, I consider the lathe without an equal." "I sat at the lathe for 11 hours, cutting off and threading 1 1/2 sizes pipes. Those who saw it declared it equal to 15 men in machine shop." "Using the velocipede foot-power, the operator can hold a steady hand for doing the work." "For doing actual business, the lightest or the heaviest, give me the velocipede foot-power." "The 4 1/2 lathes is equal to any costing twice the money." "What advantage me in, how you can make machines to pay you for no small sum of money." "The No. 6 L. lathe is the most perfect tool I ever saw for the money." "I can do double the amount of work on the velocipede, that I can on any other style of foot-power lathe." "There is no tax on strength, the body is at rest, steady, the hands and attention free for the job." "The velocipede—it is the best foot-power of any for lathes."
If desired, these machines will be sold ON TRIAL. The purchaser can have ample time to test them in his own shop and on the work he wishes them to do. Descriptive Catalogue and Price-List Free.
W. F. & JOHN BARNES CO., No. 221 Ruby St., Rockford, Ill.
THOMAS K. CAREY & BROS., ex S. Charles Street, Baltimore Agents

The Bookwalter Steel & Iron Co.

is now prepared to grant licenses under the Bookwalter, Robert, and other patents owned by it

Parties desiring licenses to operate under these patents will please state, in their application, for what purpose they design using the process—whether for steel castings, for ingots of dead soft steel, for tool steel, or for ordnance purposes.

BOOKWALTER STEEL & IRON CO.

18 Cortlandt Street,

NEW YORK.

<p>77 GENUINE INGOTS & MANUFACTURES BEAR OUR REG. TRADE MARKS</p> <p>Phosphor Bronze</p>	<p>PHOSPHOR-BRONZE INGOTS, CASTINGS & MANUFACTURES. THE PHOSPHOR BRONZE SMELTING CO. LIMITED 512 ARCH ST. PHILADELPHIA PA. U.S.A. ORIGINAL MANUFACTURERS OF PHOSPHOR- BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS</p>
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MAGNOLIA METAL.



ENDORSED BY

United States & German Governments.

Best Anti-Friction Metal

FOR

Steamship, Car and All Machinery Bearings.

MAGNOLIA ANTI-FRICTION METAL CO.

Owners and Sole Manufacturers,

LONDON OFFICE:
75 Queen Victoria Street.

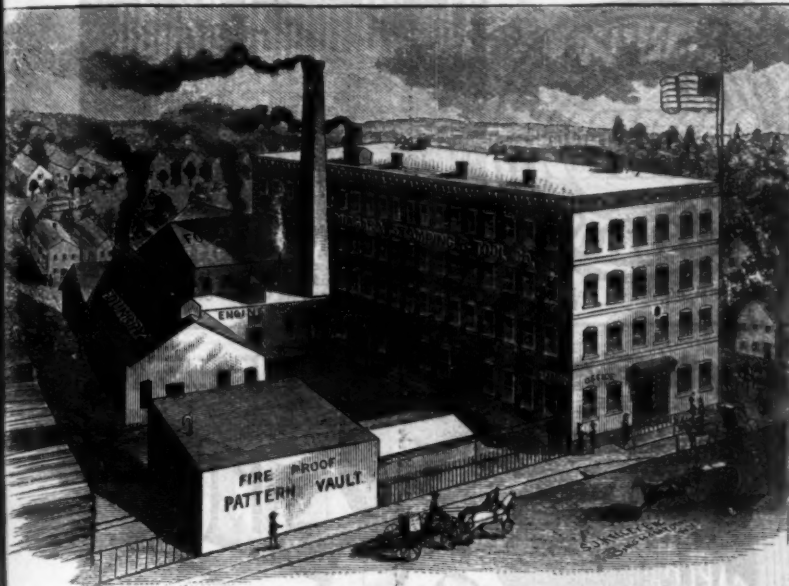
74 Cortlandt St., New York.

Niagara Stamping & Tool Co.

In the annexed illustration is given a view of the plant of the Niagara Stamping & Tool Co., corner Randall & Superior streets, Buffalo, N. Y. The business was established in 1880, and employs continuously all the year round about 150 hands. The specialty of the firm is machinery for working sheet metal and wire, in which they have by their energy, resource and executive ability achieved great and well-deserved success. It would be impossible to enumerate the improvements in design, construction and finish this firm has introduced in the manufacture of their tinner's tools and machines, and with which the trade is now familiar. Perhaps the most marked success achieved by them in any one line is in the manufacture of squaring shears, both foot and power, of which the yearly output runs up into the thousands. In addition to the manufacture of tinner's

they are generally employed the year round. The third floor is devoted chiefly to the manufacture of tinner's tools and machines, and is replete with all the latest devices for milling, boring and shaping, such as the demands of the business of the present day require. The fourth floor is utilized as a stock room, pattern shop, &c., and together with the paint shop, furnaces for drying same, shipping department, boiler and engine room, makes one of the most complete plants to be found. The firm has never had to complain of slackness or dull times, and the present is no exception to the rule, they having their hands full at all times, with prospect of plenty in the future.

A GOOD business opening would seem to be in the manufacture of cast iron car wheels under a new process as described elsewhere in the advertisement of Geo. Gantz, 21 St. Clement Street, Wilkes-



PLANT OF THE NIAGARA STAMPING & TOOL CO.

tools and machines, they deal largely in canning outfits for canning factories, and are extensively engaged in the manufacture of presses and dies.

In July, 1888, Mr. Stark retired from the firm, and the Messrs. Lautz, the noted soap manufacturers, entered into a copartnership with Messrs. Heints and Munschauer, and these three now constitute the members of the firm.

The plant owned by the firm is a fine four-story factory, with blacksmith forge, stamping annex and other accessories, including a spacious fire-proof vault for the storage of patterns. The factory is situated at the corner of Superior and Randall streets, directly opposite the large brick factory of Messrs. Heinz & Munschauer. The office is on the ground floor, in the northeast corner of the building.

The first floor is devoted to the manufacture of power and foot shears, forming rolls, foot presses, power presses and special machinery of large build, numbers of which are at all times in process of manufacture. Behind this is the stamping room, where a considerable amount of stamping from sheet metal is at all times going forward, such as coal vase tops and bottoms, bird cage bottoms, cooler tops and bottoms, &c., besides many other specialties that the firm are called upon to manufacture. The blacksmith shop is fitted up on the most improved plan, and all forges by force draught, and it is well supplied with steam hammers, rolls, &c., and everything necessary for this branch of the business.

The second floor is devoted to the manufacture of dies entirely. Leading off from this floor is a room devoted to light stamping and the manufacture of certain kinds of hardware specialties in which

barre, Pa. With the abundant facilities in the South for manufacturing iron in all forms, here may be an opportunity for some concern to control a business that should pay large profits. The process has been patented in Canada and in England as well as in this country. With this protection and the vast market for the product as described in the advertisement, it evidently would be worth the while of carefully investigating it.

DURING the past week the Reliance Gauge Co., of Cleveland, O., has received, besides numerous home orders, an order from the Porter Manufacturing Co., of Syracuse, for six No. 2 Reliance safety water columns, for boilers which they are furnishing a Cuban customer, and an order from Robert Boker & Co., of Mexico, for a like number. The demand for these safeguards is widespread, and rapidly increasing as their merits become recognized.

THE Continental Iron Works, of Brooklyn, have just shipped to Hammond & Coon, Lake Erie Boiler Works, Buffalo, N. Y., 16 of their celebrated corrugated boiler furnaces, to be used in the boilers of the new Old Colony steamer, for which this firm hold the contract.



SHEELIENBACK PULLEY LATHE.
Pulleys Turned and Bored Simultaneously.
The Greatest Labor-Saving Tool of the Age!
MANUFACTURED BY
RICHMOND CITY MILL WORKS,
—RICHMOND, INDIANA.—

"Swift" Lubricator
FOR
Steam Engines,
Steam Pumps, &c.
A PERFECT SIGHT FEED,
Without the use of Glass
Tubes.
Send for photograph, circular and
prices.
The "Swift" Lubricator Co.,
ELMIRA, N. Y.

"THE COLLIAU"
NEW AND IMPROVED
HOT BLAST CUPOLA,
(patent March, 1884), and New
Smokeless and Automatic Feed
Boiler (pat. 1886, in U. S.)
Correspondence solicited for
plans of foundries and the economical
use of fuel in melting iron
and steel, and in the production
of steam. Address **VICTOR
COLLIAU**, Mechanical Engineer
and Architect, 287 Jefferson
Avenue, Detroit, Mich.

BRICK AND TILE
MACHINERY
BEST IN THE WORLD.
Send for circular & prices
J. W. PENFIELD & SON
Willoughby, Ohio.
Stands Unrivalled
Lock Box 46

ELIAS EDMONDS,
Attorney at Law
SAN ANTONIO, TEXAS.
Makes the Litigation of Land Titles a
specialty. Will also Lend Money for non-
residents upon the best real estate security.

POWELL'S Grease Cups
Brass & Piled for Engines, etc.
ALL IRON for Line Shaftering.
With Patent Cut-Off for Regulating Flow of Grease.
For Sale by **THOS. C. BASSOR & CO., Baltimore, Md.**
MANUFACTURED BY
The WM. POWELL CO., Cincinnati, O.
Also a full line of Steam Brass Work.

Established 1867.
E. Harrington, Son & Co.
Works and Office,
N. 15th St. & Penna. Ave.
Phila., Pa., U. S. A.
Manufacturers of a full line of
**Iron-Working
MACHINERY,**
INCLUDING
Extension and Gap Lathes,
Planers with Quick Return,
Drills, &c., Hand Power Ele-
vators with Patent Brakes,
Double Chain Screw Helms
OVERHEAD TRAMWAY, with
Switch, Turntable and Gears
Truck.
Gear Cutting a Specialty.
Send for estimates.
QUEEN LUBRICANT—Wanted a good home
in every city and town to handle our Lubricant.
Our goods have been well introduced.
EUREKA MFG. CO.
Foot E. 4th St., New York.

THOMAS J. ANDRESS,
MANUFACTURER OF
Steel Wheel Glass Cutters of Hardware Novelties
821 Cherry Street, Philadelphia, Pa.

STEAM PUMPS
For every duty. Best Materials only
used. Fully guaranteed and tested.
It will pay you to write for prices.
HUGHES STEAM PUMP COMPANY.
CLEVELAND, OHIO.
Designs & Sell, New York Agents.



**BUY AN
ENGINE
OR
BOILER**
Until you have seen our circulars. Engines complete
from 5 to 110 horse power, both Vertical and Hor-
izontal, at prices below those of other reputable mak-
ers. 1400 in use. Boilers of every style. Auto-
matic Engines for Electric Lights or Centrifugal
Pumping Machinery for Drainage or Irrigation.
Established 25 years. Perfect satisfaction guaran-
teed. Ask for Circular M and address

Morris Machine Works,
BALDWINVILLE, N. Y.

The Jeffrey Mfg. Co.
121 West State St., Columbus, O.
MANUFACTURERS OF
**ELEVATORS, CONVEYERS,
DRIVING BELTS, for Handling**

Barrels, Boxes, Bales, Grain, Coal, Ores, &c.
Illustrated Catalogue sent on application.
Correspondence solicited.
**BALE AND BOX
ELEVATOR.**

Bates' Hand Elevators.
Patented April 14, 1874. Reissued July 24, 1894.
OVER 5,000 IN USE.
Adapted for Warehouses, Stores, Factories,
Hotels, Public Institutions, and every place
where merchandise, &c., is transferred from one
story to another.

JAMES BATES, Patentee,
Nos. 13 & 5 President Street. BALTIMORE.

PERFORATED METAL
FOR
COTTON SEED OIL MILLS
RICE MILLS
MINING SCREENS &c.
**THE ROBERT AITCHISON
PERFORATED METAL CO.**
16 Van Buren St. Chicago, Ill.

THE MARKETS.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, July 24, 1889.

The statement of the Board of Control of the Bessemer Steel Co., last week, showed that orders for steel rails since January 1 were 963,550 tons, of which 575,000 tons were delivered up to the 1st of July. Last year the sales up to same date were 934,937 tons, and deliveries 585,558 tons. Last week's business footed up 20,000 tons in Eastern mills, and probably 10,000 tons in Western mills. The rail makers have managed to pull out of threatened difficulties, and are now quite well sold up, though not at as wide margins as they have been accustomed to. Just at this time several large companies who have enterprises on hand are negotiating for rails, and all of them having cash to pay will find no difficulty in obtaining needed supplies within 90 days. Rail makers have always discountenanced the construction of roads which could not be built with spot cash; or, where any undue marketing of bonds was necessary.

The most interesting feature of the iron trade at present is the heavy demand for structural and plate iron. Three months ago nearly all the mills were soliciting business, making concessions, and beating themselves, but suddenly the whole situation is reversed; buyers are now hastening to place their orders, and prices are advancing. Beams and channels are still sold at about the combination rate \$2.80, but other kinds are about \$2.00 per ton higher in small lots than the quotations were usually given during the second quarter of the year. Bridge iron contracts are crowding in every week, and at the present rate of progress small buyers will find it difficult to obtain anything under 30 days. Angles are strong at \$2.10 to \$2.15; tees are \$2.60 and \$2.70; universal plates are sold at \$2.20, and ordinary plate and tank iron is wanted as fast as it can be furnished at \$2.10 to \$2.20. Southern railroad companies have been placing a good many orders for bridge, tank, and other work, but were fortunate or wise enough to place most of their orders before the recent advances.

There is quite an active demand in nearly all Northern markets for track supplies. There is also an unusual demand for wrought iron pipes and tubes. The pipe manufacturers held a very interesting meeting at Manhattan Beach last week, at which business of importance concerning prices and discounts was transacted. Two or three large wrought iron pipe contracts were given out last week, one for twelve miles of pipe.

A number of large orders were also given out in Pittsburgh, Chicago, Cincinnati and St. Louis. Merchant iron was bought in a large way. Sheet iron orders for large amounts were also placed; merchant steel contracts of unusual dimensions were also heard of, and orders for foundry and forge iron were above the usual dimensions. Large builders are preparing themselves against the possibility of an advance later on in the season. Makers of bridge iron in all parts of the country have been receiving specifications for very heavy work, some of which will not be done until winter. In some Western markets it has been found impossible to place sheet iron orders for delivery inside of 60 days. An active demand for iron and steel is springing up in small towns all over the country. The Southern and Southwestern States are excellent markets for all kinds of hardware, wagon and carriage work, fence stock, sheet iron and castings. The little industries are growing very rapidly. Street rails are also being ordered to a considerable extent.

The Western Nail Association meets in Cleveland on Wednesday. The purpose is to advance prices, if possible. There is a very heavy consumption of nails all over the country, and the manufacturers think

that now is the time to take advantage of the better distribution.

Crude iron is in fair demand in all markets, North and South. The consumption of foundry iron in the South is apparently increasing rapidly; but a fair explanation of the active demand is, that founders, finding Southern iron disappearing rapidly into Northern markets, are apprehensive of an advance, and are buying freely against such a possibility. The increased price for Southern pig iron has not checked demand. A further advance is among the possibilities at Chattanooga and Birmingham. At Louisville a good deal of iron has been changing hands on a basis of \$15 for Southern No. 1 coke; for No. 3 \$14 is the outside asked; for gray forge \$13 to \$13.50; for Southern charcoal No. 1 \$16.50; for Southern car wheel iron \$22.

New York markets are very firm and active. An advance in all kinds of iron seems to be anticipated. Southern forge is offered there at \$14.50; No. 2 at \$16 and \$16.75; No. 1 at \$16.50 to \$17.50. Northern forge is selling as fast as delivered at \$15 to \$15.50; No. 2 \$16 to \$17; No. 1 \$17 to \$18. Chicago markets are very strong, all the way from crude iron up to steel rails. There is plenty of business in every branch of iron making, and buyers are all purchasing a little in excess of 30-day requirements.

HARDWARE.

Owing to the heavy rains throughout the South the condition of the cotton and corn crops has materially improved, and the reports from the South are very encouraging. Prices remain unchanged but firm. Manufacturers are becoming more indifferent about accepting orders at low prices and are refusing orders that will not at least yield cost. The demand for present delivery continues very light, but orders for the future are being placed liberally. The demand for copper and brass goods is remarkably active, and large orders have been placed. Strap and T hinges are very low, and not about the same as plate iron. An advance of 10 per cent. would be very beneficial to the manufacturer as well as the dealer. Shovels are also low, and manufacturers are loth to take orders for future at present prices.

IRON.

CINCINNATI.—Messrs. Rogers, Brown & Co. write: "Prices have remained stationary under a fair demand and light offerings. The enquiry has run more to forge grades than to the foundry, and on that account mill irons are perhaps the firmest in the market. A number of Southern furnaces have their order books filled for two or three months ahead, and have been refusing all business above carload lots. Production, however, is fully equal to the demand."

LOUISVILLE.—Messrs. Geo. H. Hull & Co. write: "The market has been active during the past week, and several sales of magnitude have been made, one of three thousand tons, composed of bright and mill irons being the largest. Prices are fully maintained and buyers are unable to obtain any concessions. A new car-wheel iron, the Attalla, has just been placed on the market and is attracting a great deal of favorable attention. It will take high rank among the best car-wheel irons."

CHICAGO.—Messrs. Rogers, Brown & Co. write: "Continued activity is the feature of the market. The larger buyers having to a considerable extent made their purchases, the rank and file are now coming in with varied demands. Lake Superior charcoal iron is fairly out of the dumps, and offers for favorite brands at \$18.75 and \$19 cash at Chicago were refused near the close of the week. There is no iron of

this class now obtainable under \$18.50 cash Chicago, and very little at that figure. The local coke brands are very heavily sold ahead, and held at firmer figures or not offered at all. Southern irons are not offered much, prices realized in other markets being better. Ohio softeners are in fair request, but are not used as much as formerly. Nearly all the foundries are busy and looking for increased work in the fall."

ST. LOUIS.—Messrs. Rogers, Meacham & Shields write: "The advance in Southern irons has been maintained, and according to reports from other markets, the quotations will have to be put still higher soon. Several furnaces have advised their agents here that they are realizing better prices elsewhere and have raised their figures, so they are practically out of this market. Lake Superior charcoal iron is held more firmly, but no sales reported. Most of the consumers took advantage of the recent demoralization and are receiving iron bought about 75 cents less than current quotations."

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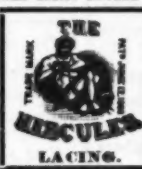
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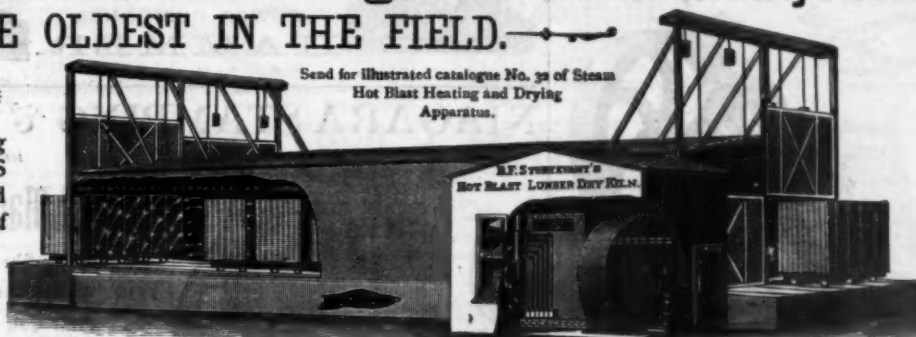
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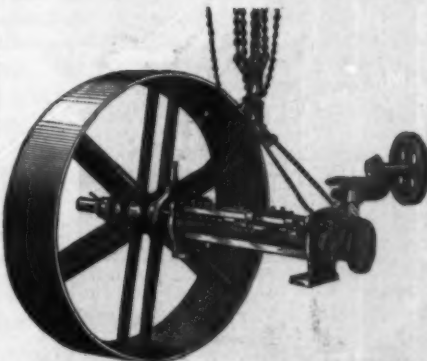
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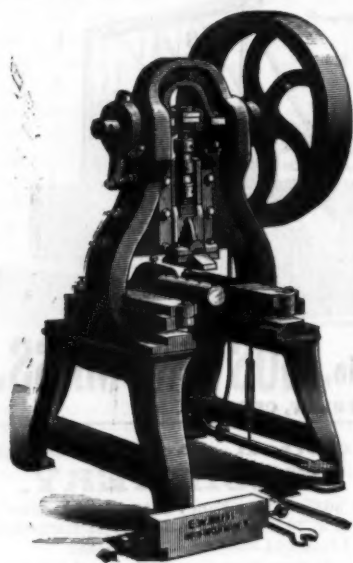
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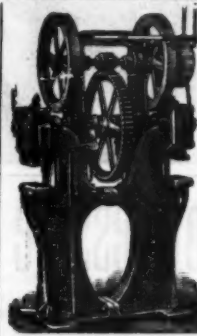
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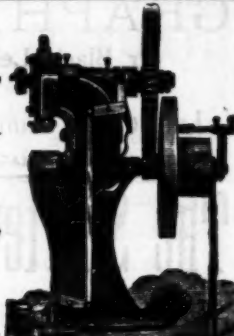
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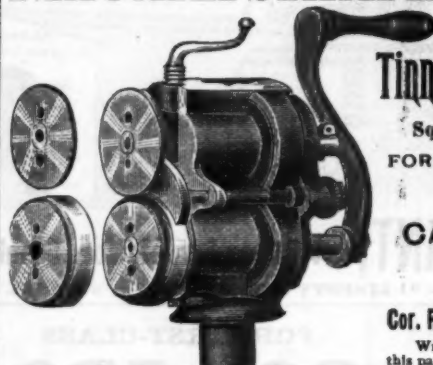
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New list..... \$ 2.00 to 2.50

Union Hat Co..... \$ 2.00 to 2.50

Jennings'..... \$ 2.00 to 2.50

Jennings'..... \$ 2.00 to 2.50

Wrought Iron..... \$ 2.00 to 2.50

Fast joint, Broad..... \$ 2.00 to 2.50

Fast joint, Narrow..... \$ 2.00 to 2.50

Fast joint, Broad..... \$ 2.00 to 2.50

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COMPASS, DIVIDING, &c.		
Compass	dia 70 00
Callipers	dia 70 00
Dividers	dia 70 00
Cook's Pencil	.....	dia 20 00
COOPER'S TOOLS.		
Bradley's	.....	dia 15 00
Barlow's	.....	dia 20 00
CHOW BARS.		
Cast Steel.....		
CURLING IRONS, &c.		
1/2, 3/4, 1 in., 1 1/2, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 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810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000, 1002, 1004, 1006, 1008, 1010, 1012, 1014, 1016, 1018, 1020, 1022, 1024, 1026, 1028, 1030, 1032, 1034, 1036, 1038, 1040, 1042, 1044, 1046, 1048, 1050, 1052, 1054, 1056, 1058, 1060, 1062, 1064, 1066, 1068, 1070, 1072, 1074, 1076, 1078, 1080, 1082, 1084, 1086, 1088, 1090, 1092, 1094, 1096, 1098, 1100, 1102, 1104, 1106, 1108, 1110, 1112, 1114, 1116, 1118, 1120, 1122, 1124, 1126, 1128, 1130, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1150, 1152, 1154, 1156, 1158, 1160, 1162, 1164, 1166, 1168, 1170, 1172, 1174, 1176, 1178, 1180, 1182, 1184, 1186, 1188, 1190, 1192, 1194, 1196, 1198, 1200, 1202, 1204, 1206, 1208, 1210, 1212, 1214, 1216, 1218, 1220, 1222, 1224, 1226, 1228, 1230, 1232, 1234, 1236, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1260, 1262, 1264, 1266, 1268, 1270, 1272, 1274, 1276, 1278, 1280, 1282, 1284, 1286, 1288, 1290, 1292, 1294, 1296, 1298, 1300, 1302, 1304, 1306, 1308, 1310, 1312, 1314, 1316, 1318, 1320, 1322, 1324, 1326, 1328, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1350, 1352, 1354, 1356, 1358, 1360, 1362, 1364, 1366, 1368, 1370, 1372, 1374, 1376, 1378, 1380, 1382, 1384, 1386, 1388, 1390, 1392, 1394, 1396, 1398, 1400, 1402, 1404, 1406, 1408, 1410, 1412, 1414, 1416, 1418, 1420, 1422, 1424, 1426, 1428, 1430, 1432, 1434, 1436, 1438, 1440, 1442, 1444, 1446, 1448, 1450, 1452, 1454, 1456, 1458, 1460, 1462, 1464, 1466, 1468, 1470, 1472, 1474, 1476, 1478, 1480, 1482, 1484, 1486, 1488, 1490, 1492, 1494, 1496, 1498, 1500, 1502, 1504, 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2170, 2172, 2174, 2176, 2178, 2180, 2182, 2184, 2186, 2188, 2190, 2192, 2194, 2196, 2198, 2200, 2202, 2204, 2206, 2208, 2210, 2212, 2214, 2216, 2218, 2220, 2222, 2224, 2226, 2228, 2230, 2232, 2234, 2236, 2238, 2240, 2242, 2244, 2246, 2248, 2250, 2252, 2254, 2256, 2258, 2260, 2262, 2264, 2266, 2268, 2270, 2272, 2274, 2276, 2278, 2280, 2282, 2284, 2286, 2288, 2290, 2292, 2294, 2296, 2298, 2300, 2302, 2304, 2306, 2308, 2310, 2312, 2314, 2316, 2318, 2320, 2322, 2324, 2326, 2328, 2330, 2332, 2334, 2336, 2338, 2340, 2342, 2344, 2346, 2348, 2350, 2352, 2354, 2356, 2358, 2360, 2362, 2364, 2366, 2368, 2370, 2372, 2374, 2376, 2378, 2380, 2382, 2384, 2386, 2388, 2390, 2392, 2394, 2396, 2398, 2400, 2402, 2404, 2406, 2408, 2410, 2412, 2414, 2416, 2418, 2420, 2422, 2424, 2426, 2428, 2430, 2432, 2434, 2436, 2438, 2440, 2442, 2444, 2446, 2448, 2450, 2452, 2454, 2456, 2458, 2460, 2462, 2464, 2466, 2468, 2470, 2472, 2474, 2476, 2478, 2480, 2482, 2484, 2486, 2488, 2490, 2492, 2494, 2496, 2498, 2500, 2502, 2504, 2506, 2508, 2510, 2512, 2514, 2516, 2518, 2520, 2522, 2524, 2526, 2528, 2530, 2532, 2534, 2536, 2538, 2540, 2542, 2544, 2546, 2548, 2550, 2552, 2554, 2556, 2558, 2560, 2562, 2564, 2566, 2568, 2570, 2572, 2574, 2576, 2578, 2580, 2582, 2584, 2586, 2588, 2590, 2592, 2594, 2596, 2598, 2600, 2602, 2604, 2606, 2608, 2610, 2612, 2614, 2616, 2618, 2620, 2622, 2624, 2626, 2628, 2630, 2632, 2634, 2636, 2638, 2640, 2642, 2644, 2646, 2648, 2650, 2652, 2654, 2656, 2658, 2660, 2662, 2664, 2666, 2668, 2670, 2672, 2674, 2676, 2678, 2680, 2682, 2684, 2686, 2688, 2690, 2692, 2694, 2696, 2698, 2700, 2702, 2704, 2706, 2708, 2710, 2712, 2714, 2716, 2718, 2720, 2722, 2724, 2726, 2728, 2730, 2732, 2734, 2736, 2738, 2740, 2742, 2744, 2746, 2748, 2750, 2752, 2754, 2756, 2758, 2760, 2762, 2764, 2766, 2768, 2770, 2772, 2774, 2776, 2778, 2780, 2782, 2784, 2786, 2788, 2790, 2792, 2794, 2796, 2798, 2800, 2802, 2804, 2806, 2808, 2810, 2812, 2814, 2816, 2818, 2820, 2822, 2824, 2826, 2828, 2830, 2832, 2834, 2836, 2838, 2840, 2842, 2844, 2846, 2848, 2850, 2852, 2854, 2856, 2858, 2860, 2862, 2864, 2866, 2868, 2870, 2872, 2874, 2876, 2878, 2880, 2882, 2884, 2886, 2888, 2890, 2892, 2894, 2896, 2898, 2900, 2902, 2904, 2906, 2908, 2910, 2912, 2914, 2916, 2918, 2920, 2922, 2924, 2926, 2928, 2930, 2932, 2934, 2936, 2938, 2940, 2942, 2944, 2946, 2948, 2950, 2952, 2954, 2956, 2958, 2960, 2962, 2964, 2966, 2968, 2970, 2972, 2974, 2976, 2978, 2980, 2982, 2984, 2986, 2988, 2990, 2992, 2994, 2996, 2998, 3000, 3002, 3004, 3006, 3008, 3010, 3012, 3014, 3016, 3018, 3020, 3022, 3024, 3026, 3028, 3030, 3032, 3034, 3036, 3038, 3040, 3042, 3044, 3046, 3048, 3050, 3052, 3054, 3056, 3058, 3060, 3062, 3064, 3066, 3068, 3070, 3072, 3074, 3076, 3078, 3080, 3082, 3084, 3086, 3088, 3090, 3092, 3094, 3096, 3098, 3100, 3102, 3104, 3106, 3108, 3110, 3112, 3114, 3116, 3118, 3120, 3122, 3124, 3126, 3128, 3130, 3132, 3134, 3136, 3138, 3140, 3142, 3144, 3146, 3148, 3150, 3152, 3154, 3156, 3158, 3160, 3162, 3164, 3166, 3168, 3170, 3172, 3174, 3176, 3178, 3180, 3182, 3184, 3186, 3188, 3190, 3192, 3194, 3196, 3198, 3200, 3202, 3204, 3206, 3208, 3210, 3212, 3214, 3216, 3218, 3220, 3222, 3224, 3226, 3228, 3230, 3232, 3234, 3236, 3238, 3240, 3242, 3244, 3246, 3248, 3250, 3252, 3254, 3256, 3258, 3260, 3262, 3264, 3266, 3268, 3270, 3272, 3274, 3276, 3278, 3280, 3282, 3284, 3286, 3288, 3290, 3292, 3294, 3296, 3298, 3300, 3302, 3304, 3306, 3308, 3310, 3312, 3314, 3316, 3318, 3320, 3322, 3324, 3326, 3328, 3330, 3332, 3334, 3336, 3338, 3340, 3342, 3344, 3346, 3348, 3350, 3352, 3354, 3356, 3358, 3360, 3362, 3364, 3366, 3368, 3370, 3372, 3374, 3376, 3378, 3380, 3382, 3384, 3386, 3388, 3390, 3392, 3394, 3396, 3398, 3400, 3402, 3404, 3406, 3408, 3410, 3412, 3414, 3416, 3418, 3420, 3422, 3424, 3426, 3428, 3430, 3432, 3434, 3436, 3438, 3440, 3442, 3444, 3446, 3448, 3450, 3452, 3454, 3456, 3458, 3460, 3462, 3464, 3466, 3468, 3470, 3472, 3474, 3476, 3478, 3480, 3482, 3484, 3486, 3488, 3490, 3492, 3494, 3496, 3498, 3500, 3502, 3504, 3506, 3508, 3510, 3512, 3514, 3516, 3518, 3520, 3522, 3524, 3526, 3528, 3530, 3532, 3534, 3536, 3538, 3540, 3542, 3544, 3546, 3548, 3550, 3552, 3554, 3556, 3558, 3560, 3562, 3564, 3566, 3568, 3570, 3572, 3574, 3576, 3578, 3580, 3582, 3584, 3586, 3588, 3590, 3592, 3594, 3596, 3598, 3600, 3602, 3604, 3606, 3608, 3610, 3612, 3614, 3616, 3618, 3620, 3622, 3624, 3626, 3628, 3630, 3632, 3634, 3636, 3638, 3640, 3642, 3644, 3646, 3648, 3650, 3652, 3654, 3656, 3658, 3660, 3662, 3664, 3666, 3668, 3670, 3672, 3674, 3676, 3678, 3680, 3682, 3684, 3686, 3688, 3690, 3692, 3694, 3696, 3698, 3700, 3702, 3704, 3706, 3708, 3710, 3712, 3714, 3716, 3718, 3720, 3722, 3724, 3726, 3728, 3730, 3732, 3734, 3736, 3738, 3740, 3742, 3744, 3746, 3748, 3750, 3752, 3754, 3756, 3758, 3760, 3762, 3764, 3766, 3768, 3770, 3772, 3774, 3776, 3778, 3780, 3782, 3784, 3786, 3788, 3790, 3792, 3794, 3796, 3798, 3800, 3802, 3804, 3806, 3808, 3810, 3812, 3814, 3816, 3818, 3820, 3822, 3824, 3826, 3828, 3830, 3832, 3834, 3836, 3838, 3840, 3842, 3844, 3846, 3848, 3850, 3852, 3854, 3856, 3858, 3860, 3862, 3864, 3866, 3868, 3870, 3872, 3874, 3876, 3878, 3880, 3882, 3884, 3886, 3888, 3890, 3892, 3894, 3896, 3898, 3900, 3902, 3904, 3906, 3908, 3910, 3912, 3914, 3916, 3918, 3920, 3922, 3924, 3926, 3928, 3930, 3932, 3934, 3936, 3938, 3940, 3942, 3944, 3946, 3948, 3950, 3952, 3954, 3956, 3958, 3960, 3962, 3964, 3966, 3968, 3970, 3972, 3974, 3976, 3978, 3980, 3982, 3984, 3986, 3988, 3990, 3992, 3994, 3996, 3998, 4000, 4002, 4004, 4006, 4008, 4010, 4012, 4014, 4016, 4018, 4020, 4022, 4024, 4026, 4028, 4030, 4032, 4034, 4036, 4038, 4040, 4042, 4044, 4046, 4048, 4050, 4052, 4054, 4056, 4058, 4060, 4062, 4064, 4066, 4068, 4070, 4072, 4074, 4076, 4078, 4080, 4082, 4084, 4086, 4088, 4090, 4092, 4094, 4096, 4098, 4100, 4102, 4104, 4106, 4108, 4110, 4112, 4114, 4116, 4118, 4120, 4122, 4124, 4126, 4128, 4130, 4132, 4134, 4136, 4138, 4140, 4142, 4144, 4146, 4148, 4150, 4152, 4154, 4156, 4158, 4160, 4162, 4164, 4166, 4168, 4170, 4172, 4174, 4176, 4178, 4180, 4182, 4184, 4186, 4188, 4190, 4192, 4194, 4196, 4198, 4200, 4202, 4204, 4206, 4208, 4210,		

[illegible]

Walker's Horse Shoes.....	\$4.00	W kg
Walker's Mule Shoes.....	\$5.00	W kg
Burden.....	\$4.10	W kg
Phoenix Light, Medium and Heavy.....	\$4.10	W kg
Phoenix Mule Shoes.....	\$4.10	W kg
Bryden Forged Horse Shoes—		
Frog Pressure.....	\$5.00	W kg
Calked.....	\$5.25	W kg
Special.....	\$6.00	W kg
Bryden Calked Mule Shoes.....	\$5.00	W kg
Perkin Horse Shoes.....	\$4.10	W kg
" Mule.....	\$5.10	W kg
JR SHOES—Mt. Carmel Ox Shoes.....	\$5.00	W kg
ICE CHAIN FRITTERS.		
Peelless—3 quart, \$4.50; 4 quart, \$5.50; 6 quart, \$7.50; 8 quart, \$9; 10 quart, \$10. Giant, with fly wheel, —14 quart, \$20; 18 quart, \$25; 21 quart, \$30; 25 quart, \$35; 30 quart, \$40; 35 quart, \$45. Discount, 50 to 10.		
American—Discount 60 %.		
2 qts. 3 qts. 4 qts. 6 qts.		
\$2.75 \$3.25 \$3.75 \$5.00		
Gem—Discount 65 %.		
2 qts. 3 qts. 4 qts. 6 qts. 8 qts. 10 qts. 14 qts.		
\$3.75 \$4.50 \$5.50 \$7.00 \$8.00 \$11.00 \$14.00		
Bliss—Discount 70 %.		
2 qts. 3 qts. 4 qts. 6 qts. 8 qts. 10 qts. 14 qts.		
\$3.75 \$4.50 \$5.50 \$7.00 \$8.00 \$11.00 \$14.00		
Double Action Chain—Discount 60 %.		
8 qts. 10 qts. 12 qts. 18 qts. 24 qts. 30 qts.		
With crank..... \$10.50 \$13.00 \$16.50 \$21.00 \$25.00.....		
" fly-wheel..... 13.00 16.00 20.00 25.00 30.00 \$37.50		
Crown—Discount 60 %.		
2 qts. 3 qts. 4 qts. 6 qts. 8 qts. 10 qts. 14 qts.		
\$3.75 \$4.50 \$5.50 \$7.00 \$8.00 \$11.00 \$14.00		
Star—Discount 60 %.		
2 qts. 3 qts. 4 qts. 6 qts. 8 qts. 10 qts. 14 qts.		
\$3.75 \$4.50 \$5.50 \$7.00 \$8.00 \$11.00 \$14.00		
Shepard's "Lightning"—1 qt., \$2.50; 2 qt., \$3.75; 3 qt., \$4.50; 4 qt., \$5.50; 6 qt., \$7.00; 8 qt., \$9.00; 10 qt., \$11.00; 14 qt., \$14.00. Dis. 65 %.		
"Jumbo" Lightning (extra large) 2 qt., Clutch and Fly-wheel, \$20; 3 qt., Clutch and Crank \$23.00; 4 qt., Clutch and Fly-wheel, \$28.00.		
White Mountain.....	dis 50 to 75	
Arctic.....	dis 50 to 75	
ICE CHIPPERS.		
"Brown.....	dis \$6.00, dis 25 %	
"Star.....	dis \$3.00, dis 25 %	
ICE SHAVE.		
Gem.....	dis \$6.00, dis 25 %	
KNIVES.		
Carriage, Jay'd lo c b y groa.....	dis 60 to 75	
Base—Common.....	dis 60 to 75	
Hemlock Door Knobs.....	new list, dis 25 to 35	
Door Mineral.....		
Door For, Jay'd.....	Same discounts as Door Locks.	
Door For, Plated.....		
Door For.....		
Furniture Plain.....	75c gross inch, dis 10 %	
Furniture, Wood Screws.....	dis 25 %	
Picture.....	dis 60 to 75	
Hemlock, Picture.....	dis 35 %	
Sauter, Porcelain.....	dis 5 %	
LADIES.		
Melting & Skim'g, Morrow's Pat. w/ dor \$4.10; 55 to 105		
Melting, C & C.....	dis 50 to 75	
LANTERNS.		
Jwl Tubular, w/ dor.....	dis 50 to 75	
LAWN MOWERS.		
Acme Buckeye, Easy & Excelsior, new list, dis 50 to 75		
Bay State.....	dis 60 to 75	
LAWNS.		
Wire Fish.....	dis 50 %	
Wye Clothes, Galvanized, 100 feet.....	dis 50 to 75	
LOCKSMITH LATCHES.		
Albion, Eagle.....	Changes made in list price.	
Cabinet, Gaylord.....	of some numbers Jan. 1,	
Cabinet, Bridgeport.....	1887, dis 25 to 35	
Cabinet, P. & F. Corbin.....	dis 40 %	
Trunk, new list, Jan. 1, 1887.....	dis 15 to 25	
Yale Lock Co., Flat Key.....	dis 40 %	
Plate.....	dis 35 to 45	
DOOR LOCKS, ETC.		
Stanford.....		
Norwalk.....		
Norwich.....		
" & F. Corbin.....	List of May 4th	
Russell & Erwin.....	1887, 50 to 75 & 25	
Mallory, Wheeler & Co.....	cash.	
Nimick & Brittan Mfg. Co.....		
Padlocks—Russell & Erwin.....		
Mallory, Wheeler & Co.....	dis 75 %	
Norwalk Lock Manf. Co.....	and 25 for cash.	
Wm. Wilcox & Co.....		
Nimick & Brittan Mfg. Co.....		
Wm. Wilcox & Co's Plate Locks.....	dis 35 to 45	
Yale Lock Manf. Co's "Standard".....	dis 40 %	
Romer's.....	dis 25 to 40	
"onestoga.....	dis 10 to 15	
"incandinavia, "Norwalk.....	dis 50 to 75	
Nimick & Brittan's Buglar-Proof Locks.....	dis 50 to 75	
MALLETS.		
Panfield Block Co., Apple, Hickory and		
Lignumvite.....	dis 30 %	
Ripley Mfg. Co.....	dis 30 %	
WHAT CUTTERS.		
America.....		
A.....		
B.....		
C.....		
D.....		
E.....		
F.....		
G.....		

Piace Irons, Butcher's.....	dis 30ks 7
" " " " " " " " " " " "	\$2.20 to 3
Piace Irons, Ohio and Co.....	dis 30
Piace Irons, Randolph Co.....	dis 30
Middlesex Mfg. Co., single and cut.....	dis 30ks 9
Middlesex Mfg. Co., double.....	33 1/2 Rps 9
PLIERS AND NIPPERS.	
Button's Patent.....	dis 30ks 7
Hall's Pat. Compound Lever Cutting Nippers.....	do
No. 8, 5 in. \$13.50; No. 4, 7 in. \$21	dis 30ks 7
Gage Filers.....	dis 30
Aceas Combined Plier and Wire Cutter.....	45 1/2
\$6; 6-inch, \$12; 8-inch, \$15; 10-inch, \$21;	dis 30
Cutting Nippers, 12-inch, \$24.55; 15-inch, \$31	do
10-inch, \$15; 8-inch, \$13; 6-inch, \$13 1/2 each.....	do
PLUMBS AND LEVELS.	
Diston's.....	dis 45 5
Stanley R. & L. Co.'s Pat. Adjustable.....	dis 62 1/2 Rps 3
Stanley R. & L. Co.'s Non-Adjustable.....	dis 62 1/2 Rps 3
Chapin's Patent Adjustable.....	dis 62 1/2 Rps 3
Chapin's Non-adjustable.....	dis 62 1/2 Rps 3
Standard Rule Co.'s New Adjustable.....	dis 62 1/2
Standard Rule Co.'s Non-Adjustable.....	dis 62 1/2
Pocket Levels.....	dis 62 1/2 Rps 3
PREPRESSED (Fruit and Jelly).	
Shepard's "Queen City".....	dis 40
PUNCHES.	
Avery Revolving Punch.....	dis 30 Rps 1
RAIL.	
Sliding Door, Wrought Brass.....	W. B. 35c. dis 30
Sliding Door, Bronze Wt. Iron.....	W. B. 35c. dis 35 5
Sliding Door, Iron, Painted.....	W. B. 4c. dis 30ks 5
Barn Door.....inch.....	3/4 3/4 3/4
Per 100 feet.....	3.00 4.40 dis 30
6. D. for N. E. Hangers—Small Med. Large	do
Per 100 feet.....	\$7.15 8.70 3.25 net
RIVETS.	
Iron and Tinned, new size.....	W. B. 12B, 12C, dis 50 5
In bulk, new list, Dec. 10, 1881.....	dis 55 5
Copper Rivets and Burrs.....	dis 50 5
No. 7 8 9 10 11 12 13 14 15	do
W. B. 49c. 50c. 52c. 54c. 56c. 58c. 60c. 62c. 70c.	do
RIVET SETS.	
RODS.	
Stair, Brass.....	dis 25 5
Stair, Black Walnut.....	35c. 3/4 doz.—net
RULES.	
Boxwood. Ivory.	
Chaplin's.....	dis 30 5
Standard.....	dis 30ks 7
Stanley.....	do
Stevens & Co.....	dis 80c. Ivory.....
Stevens & Co. Miscellaneous.....	dis 30ks 1
SAD IRONS.	
Self-Heating, Charcoal.....	W. B. 30c. 200 net
Mrs. Post's Irons.....	dis 35 5
Enterprise Star Irons, new list, July 30, 1881.....	do
Comb'd Fluter and Sad Iron.....	W. B. \$15.00, dis 15 5
Common Sad Irons.....	25c 1/2 W. B.
SASH FRAME.	
Baader & Adamson's Flint, Assort'd.....	\$4.50 30 ft. W. B.
Baader & Adamson's Flint, A.....	W. B. 50c. dis 10 5
Baader & Adamson's Flint, Assort'd.....	4.75 30 ft. W. B.
Baader & Adamson's Star.....	3.75 30 ft. W. B.
Baader & Adamson's Emery.....	3.75 30 ft. W. B.
SASH LOCK.	
Clancy's No. 100, per gross.....	dis 30 5
Nimick & Brittain Mfg. Co.....	ft. 4c. dis 30 5
Automatic Double-Action Sash Lock and Holder,	\$7.50 30 gross.
SASH CORN.	
COMMON.....	W. B. 12C, net
Patent.....	W. B. 17C, 18C, net
Silver Braided Lake Hemp.....	W. B. 50c. dis 10 5
Silver Braid, Lake White Cotton.....	W. B. 50c. dis 10 5
Silver Braided Lake Drab Cotton.....	W. B. 55c. dis 10 5
Silver Lake Cable Laid, Bengali Unbleached	do
Hemp 17 ct.....	dis 10 5
Kustian Hemp, 19 ct.....	dis 10 5
Italian Hemp, 34 ct.....	dis 10 5
Samsan Braided, white cotton.....	dis 30 5
" drab cotton.....	dis 30 5
Massachusetts.....	37c. 30 ft. W. B.
SASH WEIGHTS.	
Solid Eyes, In 500-B. lots and over.....	W. B. 15c. net
SAWAS AND SAW SETS.	
Mills.....	W. B. 30c. dis 10 5
Perry.....	W. B. 30c. dis 10 5
Enterprise Mfg. Co.....	dis 30 5
Monarch.....	dis 40 5
SAWS.	
Boydton's Lightning Cross Cuts, new list.....	37c. net
Boydton's Circular and Mill.....	dis 40 5
Boydton's Hand Panel and Rip.....	dis 40 5
Boydton's Light Hand Panel and Rip.....	dis 40 5
Diston's Circular.....	dis 40 5
Diston's Mill.....	dis 40 5
Diston's Cross Cut.....	dis 40 5
Diston's Hand, Panel, Rip, &c.....	dis 40 5
Hubbard, Bakewell & Co. Circular Saws.....	dis 40 5
Hubbard, Bakewell & Co. Cross Cut.....	dis 40 5
Hubbard, Bakewell & Co., One-Man's X Cut.....	dis 40 5
Hubbard, Bakewell & Co., Mill Saws.....	dis 40 5
Peace Circular and Mill.....	dis 40 5
Peace Hand, Panel and Rip.....	dis 40 5
Peace Cross Cuts.....	dis 40 5
Peace Hand Saws, all widths.....	dis 40 5
Weberster Cross Cut, with Back Blade.....	dis 40 5
Griffin & Sweet's Band Saw Blades.....	dis 40 5
Atkins' Circular.....	dis 40 5
Atkins' Silver Steel Diamond X Cuts.....	ft. 75c.
Atkins' Concave Tooth Dexter X Cuts.....	ft. 75c.
Atkins' Special Steel Diamond X Cuts.....	ft. 75c.
Atkins' Tuttle and Electric Tooth X Cuts.....	ft. 75c.
Atkins' Hollow Back X Cuts.....	ft. 75c.
Atkins' Shingle, Mulley, Drag.....	dis 45 5
Diamond Hack Saw.....	dis 45 5
SAW FRAMES.	
White.....	dis \$1.00, dis 10 5
Saw Rods.....	\$1.00 list, dis 10ks 5
SAW SETS.	
Sellman's Genuine.....	dis \$5.00 and \$7.75, dis 40 5
Sellman's Imitation.....	dis \$3.25, dis 40 5
Common Lever.....	dis \$5.00, dis 40 5
Lesch's Criterion for Sale, No. 1	

New Power Drop Presses.

The accompanying illustrations represent new power drop presses, suitable for drop forge and stamping work, now being put upon the market by E. W. Bliss & Co., of Brooklyn, N. Y.

Persons using drop presses know to their cost that they are liable to be a source of constant trouble and expense, because subjected to such extensive wear

The first point to be noticed in its design and one which, for a theoretically perfect tool, was considered as a *sine qua non*, is that there are no attachments of any kind upon the hammer itself.

The latter is forged of steel, and no board, belt or other device is fastened to it for the purpose of lifting, as these would be sure to cause trouble. As will be seen, it is made of great length, so that the blow is concentrated over the work, and its

interfere with the proper working, as the spring adjusts itself to such inequalities and keeps the pressure uniform, whereas by any rigid method of forcing the rolls together an inequality in the thickness of the material against which the rolls operate will cause the latter to bear with either excessive or insufficient pressure. As the limit of action of this spring is only about $\frac{1}{4}$ inch, it is not liable to breakage or set.

Another and important advantage of

The machine is very rapid in its action and works quietly and without the rattle and clatter so noticeable in the ordinary drop hammer.

A LARGE PAVING CONTRACT, COTTON FACTORY TO BE BUILT, &c.—FORT SMITH, ARK., July 16, 1889.—The contract for paving Garrison avenue (our principal thoroughfare) with vitrified brick was awarded to W. A. Doyle, of Kalamazoo, Mich., the bid being \$1.86 per square yard for paving and 15 cts. per lineal foot for resetting old curbing. The whole contract will amount to \$96,000. Mr. Doyle will at once put in a plant for the manufacture of the brick here and commence work at once. We have a superior clay for the manufacture of fire-brick, tiling, &c. A. D. Holstein, Will Mellette and Mr. Zenoni will erect at once three large business houses on Second street, to be used for wholesale houses; the Hightower Bros. and Mrs. Weigman have commenced the erection of two three-story business houses on the avenue, between Seventh and Eighth streets, and Messrs. Thos. H. Barnes, Bocquin and Rentrail and the Booth estate have nearly completed four new large business houses on the avenue, between Third and Fourth streets. The machinery is now being placed in our new flouring mill, which will be ready for the new crop of wheat. The building is three stories high and will have a capacity of 125 barrels per day. Arrangements are being made to locate a cotton plant with a 5,000-spindle capacity here. R. H. ADAIR.

New Gang Ripping Machine.

We illustrate on this page a new gang ripping machine built by the Indiana Machine Works, Fort Wayne, Ind., which they have designed with special care to meet the requirements of those having large quantities of flooring, siding, moulding, etc., to rip to size.

The frame is cast in one piece, which ensures stiffness and rigidity. The arbor is two inches in diameter, has three long bearings, one of which is detachable, and is held firmly in position by two keys, which are easily removed and the paw changed in a moment's time. The machine is provided with four 14 inch saws, all fitted to collars. The width of the machine, inside, is twenty-four inches and will take lumber four inches thick or less under the press rolls. The guide and saw are adjusted by levers on floor stand at front, or feeding in end of the roll frame; the three feed rolls and the large return roll are all driven; the two lower ones are fluted, the balance smooth; a foot lever, at front end of roll frame convenient to the operator, serves to adjust the top rolls

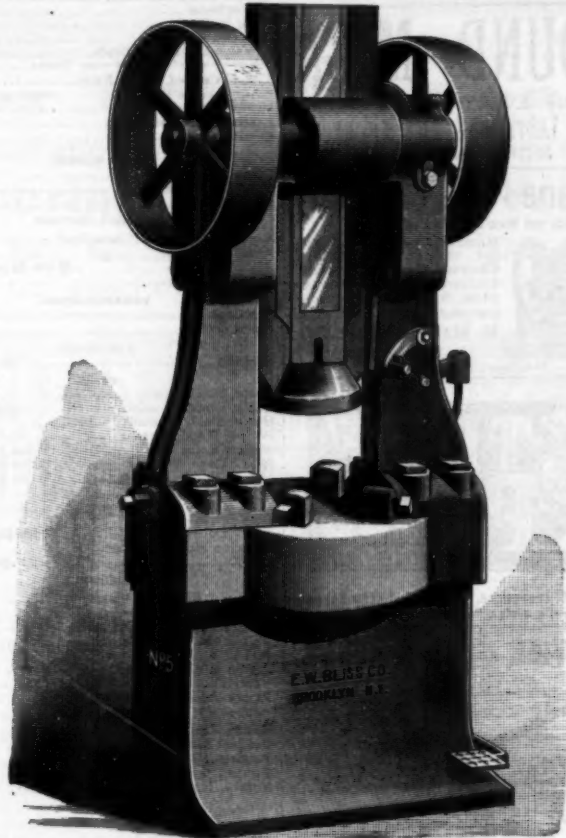


FIG. 1.—NEW POWER DROP PRESS.

and tear. From the moment a drop press is put to work it is perpetually trying to hammer itself to pieces. Even a steam hammer, used in forge work, has less call on its staying powers, because the blow is received on hot metal which is not confined in dies and acts more or less as a cushion. But in the drop press, where the blow is given metal to metal, either cold or confined in dies, the shock causes bolt heads to jarr off, nuts and tap bolts to loosen their threads and massive castings to crystallize and break.

For some years past the company above

bearing in the guides being so extended, there is no danger of breakage on account of any glancing blow, which, from the nature of the work, it may be called on to strike. This great length of bearing not only diminishes the chance of breakage of the hammer, but of the guides or shears also, as it does away with any twisting or prying effect.

The friction rolls which lift the hammer are carried in housings, as shown, and bear directly against the faces of the hammer itself. Each of these rolls is driven by an independent belt, thus dispensing

this arrangement is that it admits of a very neat and effective device for throwing the rolls away from the hammer and supporting the latter when at the top of its stroke. A long incline is planed on each side of it, as shown by dotted lines in sectional sketch, and brass shoes are attached to the housings in which the rolls are carried in such a manner that when the hammer arrives at the top of its stroke these inclines come in contact with the brass shoes and wedge the rolls apart clear of the hammer.

The pressure of the springs is thus transferred from the revolving rolls to the stationary shoes, thus preventing the hammer from dropping back. This is an im-

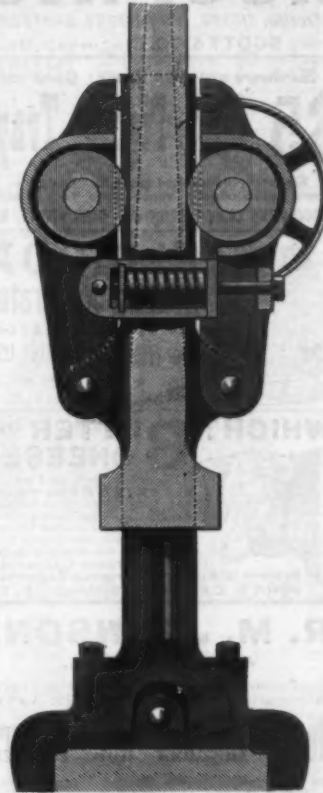
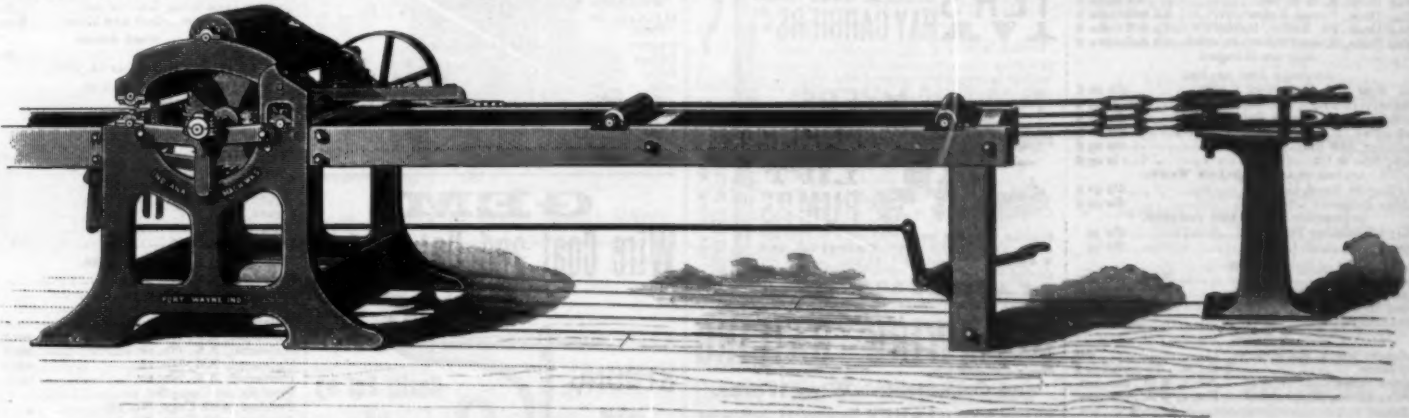


FIG. 2.—SECTIONAL VIEW.



NEW GANG RIPPING MACHINE.

named have been conducting experiments with a view to producing a tool which would be more reliable, the results of which are embodied in the machine here illustrated. Before offering it to the public it was placed on trial in a drop forge shop, where it was put to a constant and severe test extending over a long period of time.

with the necessity of gearing.

To obtain the proper pressure against the rolls, in place of the ordinary eccentrics or wedges usually employed, a powerful compression spring is used, the arrangement of which will be seen from the sectional view. With this arrangement any slight irregularities or lack of parallelism in the faces of the hammer do not

provement on the old method of having a latch or dog drop in under the hammer, as it works noiselessly and without jar and insures absolute safety against the hammer accidentally dropping.

No bolts or screw threads are used in the construction of the lifting device, as the machine is so designed as to preclude the necessity of them.

to the different thicknesses of lumber. The roll frame extends eight feet on either end of the machine.

The machine has a capacity of 80,000 feet of 12-inch stock boards per day of ten hours; two feeds go with the machine.

The arbor pulley is 32 in., and should make 2,000 revolutions per minute. The weight is about 2,200 lbs.

IRON & STEEL ROOFING

CORRUGATED & CRIMPED SIDING, MANUFACTURED BY W. G. HYNDMAN & CO., CINCINNATI, OHIO.

CEILING ETC.

SCREW DRIVERS.

Douglas Mfg. Co.	dis 50kto 5
Diamond's	dis 45 5
Cowles Mfg. Co.	dis 70 5
Stanley Rule & Level Co.'s Var. Hds.	dis 10 5
Stanley Rule & Level Co.'s Black Hds.	dis 70 5
Hatchel	dis 70 5
Clark's Patent	dis 25 5
Shepardson	dis 25 5

SPOKE TRIMMERS.

Bonney	dis 25 5
Stearns	dis 25 5
Ives	dis 25 5
Douglas	dis 25 5

SILVER PLATED WARE.

Wm. Rogers Manf. Co.	dis 50kto 5
Holmes, Booth & Hayden	dis 50kto 5
Wallace's Steel Silver Plated	dis 50kto 5
Rogers Bros. Mfg.	dis 50kto 5
C. Rogers & Bro.	dis 50kto 5

SCREWS.

Standard new list, March 1.

Flat Head Bright	dis 50 5
Round Head Bright	dis 40 5
Flat Head Brass	dis 45 5
Round Head Brass	dis 35 5
Flat Head Blued (add 5¢ to net)	dis 50 5
Brass and Silver Capped	dis 40 5
Japanned Flat Head	dis 40 5
Coach, Patent Gimlet Point	dis 75 5
Coach, Common or Lag	dis 75 5
Bed	dis 55 5
Machines, Flat Head, Iron	dis 55 5
Machines, Round Head, Iron	dis 50 5
Beach, Iron	dis 10 5
Beach, Wood, Beach	dis 10 5
Beach, Wood, Hickory	dis 10 5
Hand, Wood	dis 10 5
Hand Rail, Sargent's	dis 60kto 5
Hand Rail, Humason, Beckley & Co.'s	dis 40kto 5
Hand Rail, Am. Screw Co., list Jan. 1, '81	dis 70 5
Jack (Wilson's)	dis 25 5

SCREEN FRAMES AND FIXTURES.

Standard Window Screens No. 1	dis 50 5
Door	dis 50 5
Window Corner Irons, No. 3	dis 50 5
Door	dis 50 5
Door Latches, 1/2 dozen	dis 50 5
Porter's Patent Window and Door Screen Frames	dis 50 5

PER DOZ. SETS.

No. 22	dis 50 5
No. 21	dis 50 5
No. 20	dis 50 5
No. 19	dis 50 5
No. 18	dis 50 5

Porter's Corners.

No. 6 Corners and Sticks complete for a three-foot window	dis 50 5
No. 1, Set for Window	dis 50 5
No. 1 1/2	dis 50 5
No. 2	dis 50 5
No. 3	dis 50 5
No. 4	dis 50 5
No. 5	dis 50 5
No. 6	dis 50 5
No. 7	dis 50 5
No. 8	dis 50 5
No. 9	dis 50 5
No. 10	dis 50 5
No. 11	dis 50 5
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No. 95	dis 50 5
No. 96	dis 50 5
No. 97	dis 50 5
No. 98	dis 50 5
No. 99	dis 50 5
No. 100	dis 50 5

SHRINKS AND SCISSORS.

America (Cast) Iron	dis 50kto 5
Pruning	dis 50kto 5
Barnard's Lamp Trimmers	dis 50kto 5
Tinsmiths	dis 50kto 5
Massachusetts	dis 50kto 5
Seymour's	dis 50kto 5
Jersey Shears	dis 50kto 5
Wier & Son, Nickle, 50kto 5; Japanned, 60kto 5	
O. S. Co. Brand	dis 50kto 5
Full Nickel	dis 50kto 5
Jap. Handles, Nickel Blade	dis 50kto 5

SHRINKERS.

Sliding Door, M. W. & Co., list	dis 45kto 5
Sliding Door, R. & E. list	dis 45kto 5
Sliding Door, Patent Roller	dis 60kto 5
Sliding Door, Pt. Roller, Hatfield's	dis 60kto 5
Sliding Door, Russell's Anti-Friction	dis 60kto 5
Also see Hangers	

SHOVELS AND SPADES.

Amos, New List, November 1, 1885	dis 50 5
Griffiths	dis 50kto 5
Remington's (Lowman's Patent)	dis 50 5
Rowland's	dis 50 5
Lippincott, new list	dis 50 5
Husby, Sims & Co.	dis 50 5

SILVER PLATED HOLLOW WARE.

Wm. Rogers Manf. Co.	dis 50 5
Meriden Britannia Co.	dis 50 5

SOLDERING IRONS AND COPPERS.

Covett's Soldering Irons	dis 35 5
Covett's Adjustable Coppers	dis 35 5

SPOONS.

Britannia	dis 60, 10kto 5
Tinned, Iron, Table and Tea	dis 65 5
Tinned Iron Heating	dis 50 5
German Silver	dis 40kto 5

STONES.

Hindostan No. 1, 4c; 2c, 5c	dis 50 5
Sand Stone	dis 50 5
Washita Stone	dis 50 5
Washita Stone, Silps	dis 50 5
Arkansas	dis 50 5

SQUARES.

Steel	dis 60kto 5; full cases, dis 70kto 5
Iron	dis 60kto 5; full cases, dis 70kto 5
Nickle Plated	dis 60kto 5; full cases, dis 70kto 5
Try Square and T. Bevels	dis 50kto 5
W. & S. Try Square and T. Bevels	dis 50kto 5
Avery Flush Bevel Squares	dis 30kto 5
Avery Flush Bevel Protractors	dis 30kto 5

TACKS, BRASS, & C.

American Iron Carpet Tacks, all kinds	dis 75kto 5
Steel Carpet Tacks, all kinds	dis 75kto 5
Sweden Iron Carpet Tacks, all kinds	dis 75kto 5
Sweden Iron Tacks	dis 75kto 5
Sweden Iron Upholsterers' Tacks	dis 75kto 5
Tinned Sweden Iron Tacks	dis 75kto 5
Tinned Sweden Iron Upholsterers' Tacks	dis 75kto 5
American Iron Cot Tacks	dis 75kto 5
Gimp and Lace Tacks	dis 75kto 5

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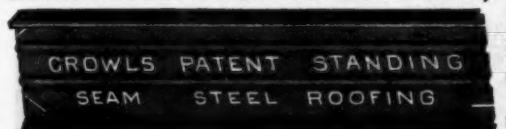
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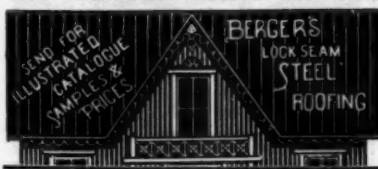


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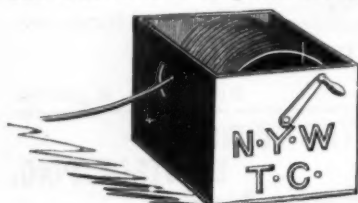
MESSRS. C. R. MAKEPEACE & Co., architects and mill engineers, Providence, R. I., write us that they were never so busy as at present, being engaged now on plans for ten mills in different parts of the South, besides their regular work in New England.

Okonite Wire.

[From New York World, July 9, 1889.]

"The World must have a telegraph line of its own, no matter what the cost may be," were the orders issued. An expert was given the order and quickly devised a scheme for a portable field telegraph line long enough to reach from any point liable to be selected to the nearest telegraph station. H. B. Thayer, of the Western Electric Co., promised to have the appliances ready in forty-eight hours. He obeyed instructions and rode to the World office on the truck bearing the wire and instruments, all of which were properly and promptly packed and forwarded by express to New Orleans, whither three expert telegraph operators were also sent with instructions to get the first news of the fight to New York, regardless of expense.

The order comprised four miles of telegraph cable. This is composed of three No. 22 copper wires, heavily insulated with Okonite and covered with stout braid. The conductors were made in mile lengths and placed on reels, which in turn were stowed in boxes so arranged that the cable could be unreel from the rear of the truck, or the reels could, if necessary, be transported by man where vehicles could not penetrate. Suitable connections for splicing the cables together were provided, and also a quantity of compound and tape for covering and insulating the joints, as the cable was guaranteed to work as well under water as above ground. A supply of iron sockets three feet long was provided, and also twelve foot poles made to fit in the sockets and bearing roller wheels at their top. The sockets were to be driven in the ground and the



poles inserted to support the line at road crossings to protect it from vehicles and marauders, and the wheel in the top was for the wire to slide over without friction. For either end of the line ground connections were provided in the shape of four-foot iron stakes bearing holes and thumb-screws to hold the end of the wire. Twenty cells of Collaud gravity battery in two boxes, and three sets of telegraph instruments, comprising box relays and keys, completed the outfit, one of the instruments being intended to provide against accidents. This plan, of course, did not comprehend the shutting off of all possibility of communication with the outside world by the toughs who might sever the telegraph wires, and under ordinary circumstances it must have worked, and resulted in the World announcing the details of the great prize fight in advance of all its contemporaries. The arrangements were all successfully made, and the field telegraph tested and found to be in good working order before the telegraph wires were cut, and to this alone is due the triumph of the World in furnishing another surprise to American journalism.

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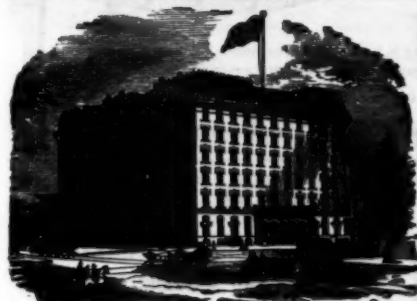
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TRADE NOTES.

THE Aetna Machine Co., Warren, Ohio, has lately received an order for one of its engines from Mr. W. I. Slipper, Mulberry, Indiana; also an engine for the Standard Iron Co., Bridgeport, Ohio; also an order for six threading machines from the Page Tube Co., Warren, Ohio.

BLAKESLEE MANUFACTURING CO., Du Quoin, Ill., have just started up, after a two weeks' shut-down for repairs and stock-taking, and report sales for the past six months as being fully 25 per cent. greater than for the same period last year. They are now running full time and full force.

THE Jeffrey Manufacturing Co., of Columbus, Ohio, manufacturers of elevating and conveying machinery, report that trade has been very active in the past month. They have orders for conveyors and elevators from various parts of the country, and have just shipped several outfits to Japan and South America.

We are informed that Mr. Moses P. Johnson, 717 N. Second street, St. Louis, is the newly accredited representative in that city of the Lidgerwood Manufacturing Co., New York. Those of our readers located in that vicinity will do well to communicate with Mr. Johnson and avail themselves of his facilities and experience when in need of hoisting machinery for railroad, building and mining purposes.

MESSES. HOOPES & TOWNSEND, of Philadelphia, Pa., have purchased the entire plant of the Hare & Morgan Co., of Wilmington, Del., and will operate it under the name of the Hoopes & Townsend Co. as an addition to their Philadelphia works. This will add largely to their present capacity, and will bring an extensive and valuable plant under the control of one of the most widely and favorably known houses in America.

THE Lidgerwood Manufacturing Co. have enlarged their principal office, located at 96 Liberty street, New York, which will enable them to handle more readily their large and growing business in hoisting machinery and appliances. The company has also just opened a new branch in Boston at Nos. 197 to 203 Congress street, which is a splendid establishment in every respect. In a word, it is one of the finest machinery stores to be found in the East. It will be in charge of Mr. J. H. Houghton, who will also represent the Gorton & Lidgerwood Co., makers of the "Gorton" house-heating steam boiler. Mr. Houghton is well-known throughout the East through previous important business connections in the machinery line.

CONTRACTORS and railroad builders will find much to interest them in a new catalogue just issued by the Kilbourne & Jacobs Manufacturing Co., Columbus, Ohio. In it will be found descriptions of several recent additions to their already extensive line of goods. They lay particular stress upon their steel bowl wagon trucks and dipping tanks and their "railroad" steel tray barrow. In their introduction to the catalogue the manufacturers say: "We are now the largest manufacturers in the United States of earth-moving implements, and have exceptional facilities for making them well and cheaply, and for filling the largest orders promptly. We have had great success in the production of pressed steel shapes, and, with our large experience and unequalled facilities for this class of work, we solicit enquiries for estimates. We are also the largest manufacturers of wheelbarrows in this country, making a great variety of kinds and sizes to meet the requirements of domestic and foreign trade. These barrows, supplied with our Jacobs' patent wheels, are now well known in all parts of the world."

THE National Pulley Covering Co., of Baltimore, have recently received from Marburg Bros., tobacco manufacturers of this city, their fourth order for the pulley covering. It was over a year ago that, the slipping of their belts becoming so bad, they were about putting in new shafting, pulleys, hangers, etc., at a great expense, when they were induced to try this covering, with results so satisfactory that the contemplated change was abandoned as unnecessary. The use of the covering has been continued to the present time, with so much success as to render such an expense unnecessary, and their continued orders since proves the confidence they have in it.

THE Wainwright Manufacturing Co. of Massachusetts have recently supplied the following plants with their well-known corrugated copper-tube feed-water heaters: The Bennett Manufacturing Corporation, New Bedford, Mass., 700 horse-power special compound heater; L. Waterbury & Co., Brooklyn, N. Y., 500 horse-power tubular heater; Nyack Electric-light Co., New Jersey, 200 horse-power; Danlap & Sons, Philadelphia, Pa., 200 horse-power; Geo. Upton, Boston, Mass., 200 horse-power; B. W. Payne & Sons, Elmira, N. Y., 400 horse-power; L. Lincoln & Co., North Dighton, Mass., 125 horse-power; besides a large number of heaters ranging from 25 to 100 horse-power. The demand for their corrugated copper expansion joints has been very large, the reduced price causing a general adoption by steam users. In special expansion joints the trade has been quite large. The Holly Manufacturing Co., of Lockport, N. Y., and the Dean Steam Pump Co. are using these joints exclusively in their compound pumping engines.

THE Ball Engine Co., of Erie, Pa., manufacturers of the Ball high speed automatic cut-off engine, are making considerable addition to their capacity, adding both machinery and new buildings. Although the works have been running night and day for the past 10 months, the company has hardly been able to keep up with its orders, and the present increase is absolutely a necessity. It will give an idea of the demand for this celebrated engine when we mention the fact that the makers have orders for 7,165 horse-power of engines to build for electric companies. The thorough manner in which the engines are built, their smooth running qualities, their handsome appearance, their perfect regulation, commends the Ball engine to all electric users. In addition to their standard engines, they are now bringing out a line of compound engine, both tandem and double horizontal, in capacity from 30 to 300 horse-power. The manufacturers say that where condensing water is available, electric companies cannot afford to use anything else than compound engines, and even where condensing water is not available, the saving in fuel will soon pay for the difference in cost. The company has just completed the first of the twelve 300 horse-power compound engines for the Edison Electric Illuminating Co., of Brooklyn, and we learn that the tests made at the factory were very satisfactory. The first two engines for this large plant will be shipped in a few days, and when placed on their foundations an exhaustive test will be made.

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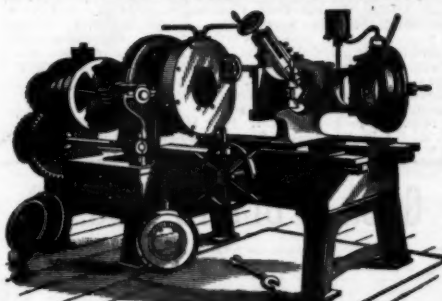
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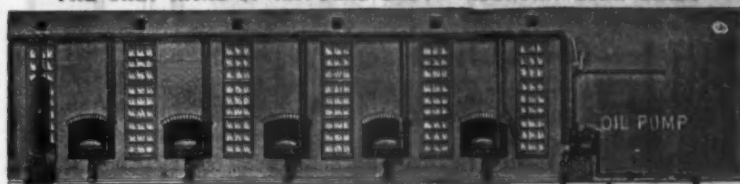
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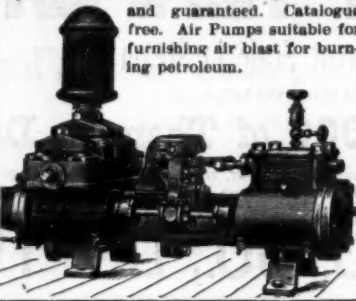
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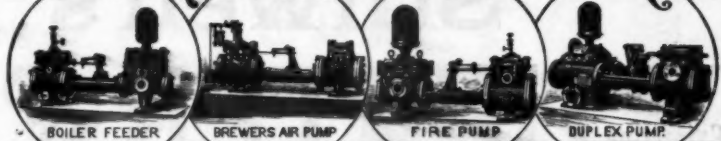
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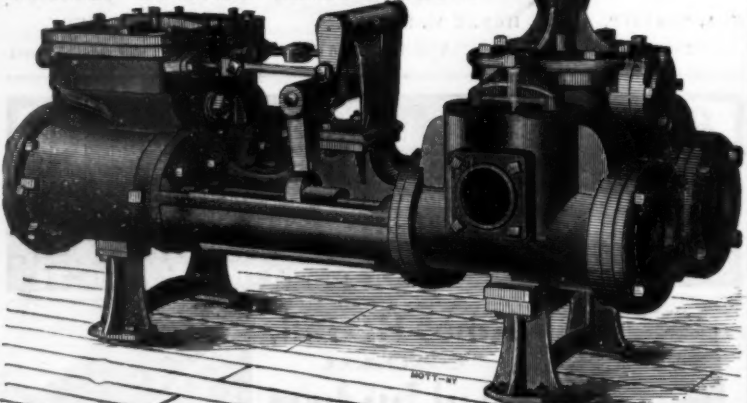
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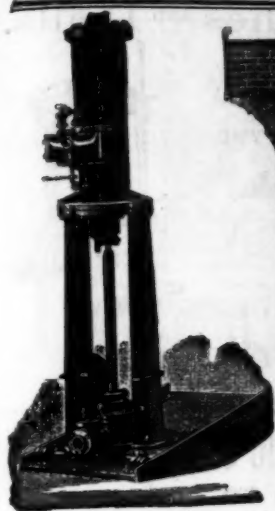
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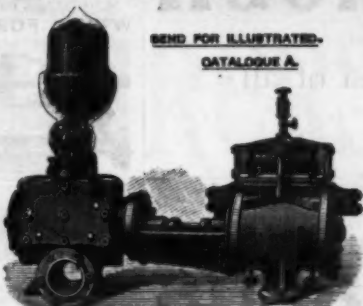
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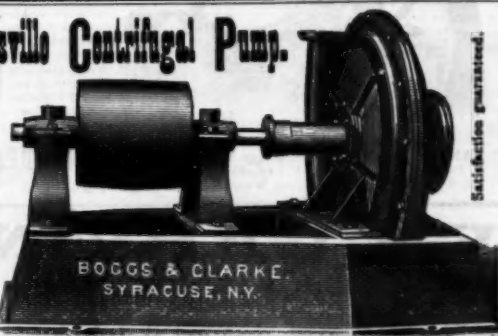
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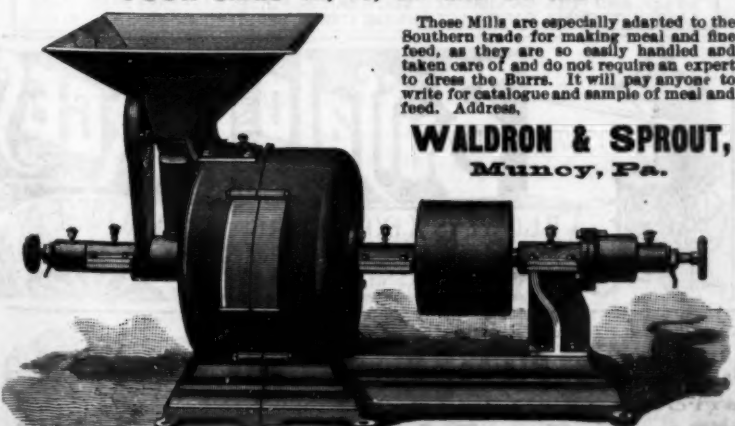
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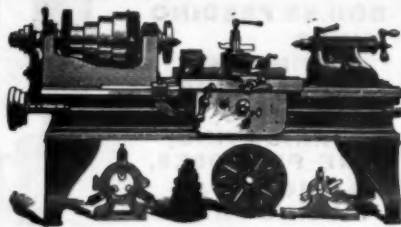
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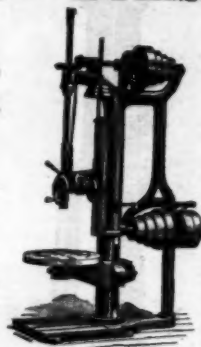
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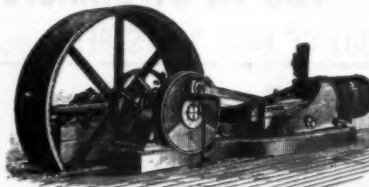
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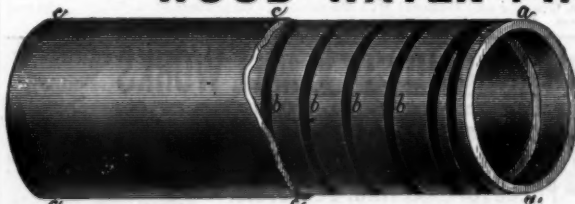


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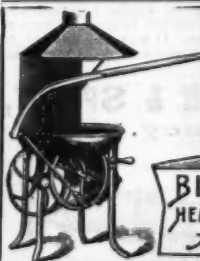
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